



# **i-Tec '19**

## **INTERNATIONAL INNOVATION, TECHNOLOGY EXHIBITION AND CONFERENCE**

**CONFERENCE** 

**INNOVATION COMPETITION** 

**POSTER COMPETITION** 

# CONTENT

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I take great pride in welcoming all students, researchers, scientists, academicians, professionals and industry players to the 2nd. International Innovation Technology & Conference (i-Tec '19) at Kolej Kemahiran Tinggi MARA, Kemaman, Terengganu.

Driven by the theme “Gearing Up for Industry 4.0”, i-Tec '19 fosters innovation through applied practice, creative and innovative thinking.

In today's rapid technology advancement, I believe the people of technology will require adept enthusiasms, tenacity and dedication if to stay relevant and coherent in its ever-changing technology. I urge all of those who are in the related field to continuously develop and exploit existing techniques through various innovation definitions and beyond imagination boundaries.

This year i-Tec '19 is seeing a serious pragmatic approach where forty (40) conferences are assembled to share the insight into recent research and cutting edge technologies while encouraging 124 innovation-competition participants for dynamic exposition and interaction of research between the students and the brilliant academics in an informal setting. I also applaud players from the industry who provide views for our students, young researchers and scientists-to-be on how the operation and assessment of government-industry cooperation and partnerships work while enhancing the benchmark of Technical and Vocational Education Training (TVET) education system.

Kind regards,

YBhg. Dato' Azhar Bin Abdul Manaf  
Director General of MARA



Welcome to the 2nd International Innovation, Technology Exhibition and Conference (i-Tec '19). MARA Technical and Vocational Division (MARA TVET) is responsible for developing and maintaining TVET educational programs that contributed to the human capital development in TVET area). KKTM Kemaman is the pioneer under MARA TVET that conducted such event as i-Tec '19 which includes innovation competition, poster competition and research conferences internationally. This is in line with MARA TVET objectives which are to form a holistic and balanced TVET human capital based on R.I.S.E (Religious, Innovative, Skills and Entrepreneurship) and to catalyze the industrial technology revolution for economic growth and sustainability.

i-Tec '19 is aimed at providing the inventors, researchers and engineers from all over the world a platform to exchange ideas and the research results, as to develop scientific discoveries in these areas of interests and to shift from scientific discovery to commercial literacy. It will also recognize products / ideas / research and empowering innovation culture among delegates.

The success of i-Tec '19 depends completely on the effort, talent, and energy of inventors and researchers who have developed the new idea in invention and also have written and submitted papers on a variety of topics. My humble appreciation goes to the program committee members and external reviewers and juries who have contributed significant time in analyzing and assessing multiple projects and papers, who hold and maintain a high standard of quality for this exhibition and conference.

Thank you and best wishes.

Ir. Mahzan bin Teh  
Director of MARA Vocational & Technical Division



Alhamdulillah, once again we are able to gather at KKTM Kemaman for the International Innovation, Technology Exhibition and Conference (i-Tec'19). i-Tec'19 continues a tradition of bringing together inventors, researchers, academicians and professionals from all over the regions focusing on the Industrial Revolution 4.0 parallel with the theme "Gearing Up for Industry 4.0".

Innovation and posters competition are comprising of seven clusters. The number of participants in i-Tec'19 had increased since i-Tec'17 and it reflects a greater interest and participation in the mind of innovators. We had received 124 participants for innovation competition, 28 participants for posters competition and 40 papers in seven research areas. All the research papers had gone through 2 stages of review and finally were accepted. We are very proud to announce that the accepted conference papers in i-Tec'19 will be published in the AIP Proceedings which is indexed in the Scopus.

In conclusion, I would like to express my sincere gratitude to all exhibitors, presenters and co-organizers for the strongest supports towards i-Tec '19. I hope that the bond created with all parties will be continuously sustained for a greater industry growth and a progressive nation building.

Thank you.

Md Khalil bin Mohamad  
Director of KKTM Kemaman



# **EVENTS PROGRAMME**

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# DAY 1

## ***23rd September 2019***

- 02.00 pm : Innovation Competition  
Registration & Booth Setting  
(Dewan Seri Perdana)
  
- 04.30 pm : Briefing to Participants of Innovation Competition  
(Dewan Seri Perdana)
  
- 05.00 pm : End of Registration



## DAY 2

### **24th September 2019**

- 08.00 am : Conference Participants Registration  
(Dewan Seri Perdana Lobby)
- : Innovation & Posters Exhibition  
(Dewan Seri Perdana)
- 08.30 am : Conference Opening Ceremony  
(Dewan Seri Perdana)
- : Keynote Speech  
**YBhg. Dr. Maziah bt Che Yusoff**  
(Dewan Seri Perdana)
- 09.30 am : Innovation Competition  
(Dewan Seri Perdana)
- 10.00 am : Conference Presentation  
(Dewan Kuliah Bintang & Dewan Kuliah Cakerawala & Bilik  
Malikai)
- : Academic Exhibition  
(Ground Floor of Perpustakaan Ibnu Sina)
- : Exhibition & Promotion from UniKL and Vocational and  
Technical Division (BKT)  
(Ground Floor of Perpustakaan Ibnu Sina)
- 01.00 pm : Break
- 02.00 pm : Innovation Competition  
(Dewan Seri Perdana)
- 04.00 pm : Conference Closing & Prize Giving Ceremony  
(Dewan Seri Perdana)
- 05.00 pm : End

## DAY 3

***25th September 2019***

- 08.00 am : Innovation and Posters Exhibition  
(*Dewan Seri Perdana*)
- 09.00 am : Briefing on Intellectual Property Registration from MyIPO  
(*Dewan Seri Perdana*)
- 09.30 am : Industrial Promotion  
(*Dewan Seri Perdana*)
- 01.00 pm : Break
- 02.30 pm : Arriving of Honourable Guests of i-Tec'19 Closing Ceremony  
**Prof. Dato' Dr. Mazliham Mohd Su'ud**  
**UniKL President**
- 03.00 pm : Closing & Prize Giving Ceremony  
(*Dewan Seri Perdana*)
- 04.30 pm : Certificate and Trophy Giving to Winners of Innovation Competition  
(*Dewan Seri Perdana*)
- 05.00 pm : End



# ***ELIT BUMIMAS***

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# **CONFERENCE**

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**Dewan Kuliah Bintang**

# CONFERENCE LISTING

NO	TITLE	REG. ID
1	REVIEW OF FRICTION STIR WELDING ON ALUMINIUM 3D PRINTING MATERIALS	C15
2	EXOSKELETON FOR DAMAGING LEGS: STUDY, DEVELOPMENT AND THE FUTURE	C17
3	A REVIEW ON USER EXPERIENCE MODELS FOR THE HEARING-IMPAIRED MOBILE APPLICATIONS	C19
4	AUTOMATED LIGHT CONTROL FOR IOT APPLICATION	C23
5	OPTIMIZATION OF FOAM-FILLED SQUARE THIN-WALLED ALUMINIUM STRUCTURES	C24
6	VERIFICATION OF QUARTER VEHICLE TRACTION MODEL	C25
7	OIL PALM EMPTY FRUIT BUNCH TABLET AS AN ECO-FRIENDLY CORROSION INHIBITOR FOR MILD STEEL ACID CORROSION	C26
8	DISCOVERING THE READINESS OF MALAYSIAN INDUSTRY IN ADAPTATION OF INDUSTRY REVOLUTION 4.0 TOWARDS MANUFACTURING SUSTAINABILITY	C33
9	PRIORITIZATION OF SUPPLIER DEVELOPMENT PRACTICES: A FUZZY ANALYTICAL HIERARCHY APPROACH	C34
10	INVESTIGATION OF DRIVER BEHAVIOUR IN DIFFERENT DRIVING PATH BY USING ELECTRIC BUGGY CAR.	C40
11	SURFACE ROUGHNESS PERFORMANCE DURING MACHINING ALUMINIUM ALLOY USING AUTOMATED COOLANT SYSTEM	C43
12	TECHNOLOGY INTEGRATION PRACTICES OF STEM TEACHERS: A CASE STUDY IN MARA TVET	C47

### C15: Review of Friction Stir Welding on Aluminium 3D Printing Materials

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**Abstract.** This review paper will discuss about the joining process of Aluminium 3D printing materials by using friction stir welding process. Currently, the studies on the joining of 3D printing materials by friction stir welding are very limited. Through this review, the joining materials characteristics such as weld efficiency, hardness and microstructure after friction stir welding process will be discussed to identify the behaviour of weld joint materials. Understanding the friction stir welding process on 3D printing materials is importance in order to support the future advancement of 3D printing technology in terms of 3D printing part repairing activity and the secondary process such as the joining of 3D printing parts. In this paper, the fundamental concept of friction stir welding and powder bed fusion 3D printing is discussed. At the end of the review, the summary of friction stir welding process on Aluminium 3D printing materials concluded that the joining process is feasible to weld the materials and modify the base

material characteristic of the 3D printing materials.

**Keyword:** FSW, EBM, SLM, DMLS, 3D Printing,

### C17: Exoskeleton for Damaging Legs: Study, Development and the Future

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**Abstract.** Exoskeleton normally known as a mobile machine integrated with human movements used for many applications such as disorder caused by stroke, spinal cord injury, or other related diseases where it is difficult for humans to handle. This machine or device is capable to assist them to regain the ability to walk and improve the quality of life. In this review paper we touch upon the history of exoskeletons, their design and development, the future of exoskeletons and how they can become a part of humans' day to day life. This paper also provides human-centered approach and addressing the problems of physical human-exoskeleton interactions and dealing with everyday scenarios.

**Keywords:** Bionic, Exoskeletons, Gait, Mobile Machine, Nanotechnology, Rehabilitation, Robotics.

### C19: A Review on User Experience Models for the Hearing-Impaired Mobile Applications

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**Abstract.** User experience (UX) is an important element that need exclusive attention. It is to ensure a successful mobile application enjoyable which can affect user perceptions. Currently mobile applications for the hearing-impaired has increased tremendously with the increase of the usage of mobile phones. However, UX evaluation model that best suits the evaluation for mobile application for the hearing-impaired is rather very general. User experience of the mobile application for the hearing-impaired is very limited that makes the evaluation more challenging and difficult. This study reviews the current UX models provide evaluation guidelines for hearing impaired and UX dimensions used by researchers and discuss the trend for future evaluation of mobile applications for hearing-impaired. Result shows that user experience for mobile application for the hearing-impaired are limited. This study helps mobile developers and evaluators in evaluating mobile application for the hearing-impaired.

**Keywords** – Mobile application, application for hearing-impaired, user experience model

### C23: Automated Light Control for IoT Application

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**Abstract.** This paper presents a practical implementation of Internet of Things (IoT) in daily activities. An automated light control system is developed with the aim to reduce energy consumption. The lighting system is equipped with PIR motion sensor to allow automatic switching. It will automatically turn the light off around the room or area when there is no presence of human for an allocated time. Fail-safe options are available in two methods; by using a virtual switch in mobile application and also the physical switch accessible in the room. The mobile application will be displaying the energy consumption as well as billing monitoring in Ringgit Malaysia based on the electricity tariff set by Tenaga Nasional Berhad.

### C24: Optimization of foam-filled square thin-walled aluminium structures

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**Abstract.** Crash box are the structural part designed to absorb energy during crash and minimize the injury to passengers. Various design of energy absorbers has been introduced to unleash design with the best crashworthiness behavior. Foam-filled structures are one of the promising designs. In this study, foam-filled structure was investigated to increase the energy absorption capability and reduce the initial peak force simultaneously. Since most foam-filled structures tend to absorb more energy with high peak force, optimization of the energy absorbers is significant in obtaining the optimum design. RSM has been dominant technique in crashworthiness optimization mainly because of it provides efficient and accurate solution. This paper focused on the optimization foam-filled columns with respect to thickness of the tube and length of foam to enhance energy absorptions and reduce initial peak force. The optimization results suggested by Design Expert software for quasi-static test is 515.9 J for EA and 134.94kN for IPF value. For impact test, the optimum solution value for EA and IPF are 864.5 J and 88.33kN respectively.

### C25: Verification of Quarter Vehicle Traction Model

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**Abstract.** This paper presents the modeling and validation of a quarter car model to study vehicle dynamic behaviors of Antilock-Braking System (ABS). The simulation model was developed in MATLAB Simulink software and verified with the experimental data made by Fauzi *et al.* [1]. The vehicle dynamics behaviors that were body velocity, wheel longitudinal velocity, and the tire longitudinal slip. By comparing the simulation and the referred data, it can be said that the trend had satisfied each other and can be used as a plan in the ABS control development.



### **C26: Oil Palm Empty Fruit Bunch Tablet as an Eco-Friendly Corrosion Inhibitor for Mild Steel Acid Corrosion**

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Oil palm empty fruit bunch (OPEFB) tablet was evaluated as corrosion inhibitor for mild steel corrosion in 1 M hydrochloric acid using weight loss technique. OPEFB was grinded, mixed and compressed into tablet. The formulation of OPEFB tablet comprises of OPEFB powder, hydroxypropyl methylcellulose (HPMC) and arabic gum (GA) as hydrophilic polymer and microcrystalline cellulose (MCC) as filler. The ratio of all four components were varied and the weight of tablet and the compression force are kept constant at 0.5 g and 6 kN respectively. All corrosion tests were conducted at 72 h of immersion time. The results showed that among 20 different formulations, a formulation with 1:0:4.5:4.5 ratio of OPEFB:HPMC:GA:MCC yields the highest inhibition efficiency which is 62%. Overall, it is proven that OPEFB tablet is capable of inhibiting mild steel corrosion in acidic environment. This provides an exciting opportunity to advance our

knowledge in oil palm-based corrosion inhibitor.

### **C33: Discovering the Readiness of Malaysian Industry in Adaptation of Industrial Revolution 4.0 towards Manufacturing Sustainability**

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**Abstract.** Industrial revolution 4.0 is hitting manufacturing industry where a big amount of data and equipment are being introduced. IR 4.0 is said to be a positive movement of manufacturing firm to be better and competitive in manufacturing industry. There are many definition of IR 4.0 defined by researchers and industrialists from the whole world. Some of the popular definition are customization, digitalization, flexible, responsiveness and automation. This paper will focus only on one element of IR 4.0 which is responsiveness. Responsiveness holds an essential role in IR 4.0 where manufacturing firms have to be responsive on the whole manufacturing process related with their business from the production design, planning, customer, society, surrounding, technology, suppliers and stakeholders. Nowadays, lots of issues

related with sustainability are arise either from governed authority or non-government bodies. This issue is very sensitive and should be considered by manufacturing firms in any decision made. This scenario makes IR 4.0 and sustainability looked moving in the opposite direction where achieving and competing in IR 4.0 will make manufacturing firms neglecting the sustainability issue. In order to be more sustainable in this industry, manufacturing firms should consider to be responsiveness and its impact towards manufacturing sustainability. This research started with finding the key manufacturing responsiveness and sustainability practices and elements from the published articles. Then, a structured questionnaire survey is constructed thus distributed to reachable manufacturing firms in Malaysia. The data gathered is analyzed using SPSS software on the data reduction and factor analysis, Cronbach's alpha reliability test and Pearson correlation. The result will show the relationship between manufacturing responsiveness and sustainability which might represent the Malaysian industrialist perspective on this scenario.

#### **C34: Prioritization of Supplier Development Practices: A Fuzzy Analytic Hierarchy Approach**

R. Tukimin<sup>1,2, a)</sup>, W. H. W. Mahmood<sup>1</sup>, N. Mohamed<sup>1</sup>, M. N. H. M. Rosdi<sup>1,2</sup> and M. M. Nordin<sup>2</sup>

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**Abstract.** Today, manufacturing firms are demanding a higher level of performance from their supplier. Manufacturing firms need to ensure that their suppliers are capable of providing the best quality of materials, on time, at the right place and the right level of service. To achieve this objective, manufacturing firms may engage in supplier development (SD) program. However, the number of practices involved in SD are extensive. The management of a manufacturing firm should understand the roles and relationship between these practices, so that it may provide additional information on how to manage them. Thus, this paper proposed a model for evaluating and selecting supplier development practices using an integration of fuzzy logic and Analytical Hierarchy Process (AHP). The results obtained can be referred by manufacturing practitioners as guidelines of seeking the opportunity to implement SD program in enhancing the capabilities of suppliers who contribute to the movement of supply chain in achieving the greater performance of manufacturing sustainability and responsiveness.

#### **C40: Investigation of Driver Behaviour in Different Driving Path by Using Electric Buggy Car**

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**Abstract.** Each human has the capability to make decisions and respond to situations completely on its own based on their intelligence level and experience. During driving, ability makes the driver alert and know what they need to do in a certain situation. This paper aims to investigate human behaviour while driving the electric vehicle at the desired path. The electric buggy car is used and set up with equipment and sensor as an Electric Vehicle (EV). Several sensors used to collect data and certain criteria subjects are selected with the purpose to study their driving pattern. The speed, steering wheel angle, heading, and position of the buggy car is collected throughout the human navigation experiments. The behaviour of the human while driving in the straight path, turn left and turn right will be collected at the end of experiments.

**C43: Surface Roughness Performance  
during Machining  
Aluminium Alloy using Automated  
Coolant System**

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**Abstract.** Surface finish is an important measure of product quality since it greatly influences the performance of mechanical parts. In CNC machining, wet cooling technique is normally applied to provide lubrication at the cutting zone to obtain good surface finish. In this technique, a large amount of cutting fluid is supplied continuously at the cutting zone to reduce the temperature between cutting tool and work piece. Although the cutting fluids are beneficial in industries, their toxicity can give negative impact to environment, human health and increase production cost. Furthermore, it is found that, only a small amount of coolant plays their role in the cooling system application. Thus, an Arduino time base automated coolant supply is developed as a new system to reduce the use of cutting fluids. According to the experimental results, it is observed that this technique can reduced the cutting fluid consumption during machining operation and the improvement of the surface roughness is also obtained.

## **C47 : Technology Integration Practices of STEM teachers in MARA TVET**

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Abstract. Stem education is a platform for a society to be advanced in economy and technology. Therefore, stem education leads to economic growth through skilled and multi-talented workforce. Furthermore, technology plays a crucial and significant role in stem education. However, teachers claim that technology to be the hardest discipline to integrate in stem education. There is a large body of literature examined technology integration in various learning environments at education levels. What about technology integration practices in an enhanced stem learning environment such as tvet? It is the purpose of this study to investigate technology integration practices of stem education in tvet. This survey research was conducted in a mara tvet institution using adopted spma (standard mara educators) instrument. Implication of the findings on teacher pedagogical knowledge integrating technology is addressed

# FESTTECH

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# **CONFERENCE**

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**Dewan Kuliah Cakerawala**

## CONFERENCE LISTING

NO	TITLE	REG. ID
1	EVALUATING EFFECTIVENESS OF E- LEARNING AND PERCEIVED SATISFACTION FOR AN ACCOUNTING COURSE USING THE FA4V1 HYBRID APPLICATION.	C01
2	INTENTION TO PURCHASE ORGANIC PRODUCTS IN MALAYSIA: USING PARTIAL LEAST SQUARES STRUCTURAL EQUATION MODELING (PLS-SEM)	C03
3	SERVICE PROVIDERS AND SMALL MEDIUM ENTREPRISES (SMES) INTERNATIONALIZATION	C05
4	DESIGN, ANALYSIS AND BUILD DRIVE SYSTEM EXTENSION DEVICE FROM MOTORCYCLES CHAIN	C06
5	A MODEL OF GROWTH THROUGH SOCIAL INNOVATION	C12
6	SOLAR ENERGY MICROGRID BASED MODELLING AND MATHEMATICAL APPROACH IN KG PAYOH, KEMAMAN, TERENGGANU	C14
7	POST-INTERNSHIP SKILLS GAP IDENTIFICATION AMONG MALAYSIAN ENGINEERING STUDENTS	C32
8	READINESS OF CHANGE LEADERSHIP PRACTICES IN THE SUSTAINABILITY OF INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAM (IBDP) IN MARA COLLEGE	C36
9	SCHOOL-BASED SUBSTANCE USE PREVENTION PROGRAMS, FORMULATED EDUCATION MODULES.	C38
10	DEVELOPMENT OF SUSTAINABLE SUPPLIER SELECTION MODEL USING DEMATEL FOR MANUFACTURING INDUSTRY	C39
11	GAMIFICATION IN LEARNING PROGRAMMING LANGUAGE	C42

### **C01: Evaluating Effectiveness of E-Learning and Perceived Satisfaction for an Accounting Course Using the FA4v1 Hybrid Application**

Tengku Besaruddin Shah Tengku Yaakob<sup>1, a)</sup>, Wan Zuraida Wan Yusoff<sup>2, b)</sup> and Che Alias Mohd Yusoff<sup>3, c)</sup>

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**Abstract.** The purpose of this study is to determine the effectiveness of adapting e-learning using self-developed hybrid applications called FA4v1 based on IR4.0 technology for an accounting course in Politeknik Sultan Haji Ahmad Shah (POLISAS). A hybrid FA4v1 application was self-developed by the content creator that works on mobile and web technologies. It has been implemented for students taking Financial Accounting 4 in the December 2018 session. This study attempts to evaluate, 1) the perceptions of the students (application user) on the hybrid FA4v1 usage, and 2) It also evaluates the impact of its usage and application in reflecting final examination results for Financial Accounting 4 course. A questionnaire was distributed online for users to give their feedbacks after using the application in their class. It consists of student's perceptions involving time, tools

and costs compared to conventional teaching and learning (Teaching and learning) methods. The study showed that more than 80% gives their positive feedbacks in using the application. They agreed that the application is easy, efficient, and cost saving compared to other Teaching and learning methods and will benefit them as an alternative learning resource. The study uses a causal comparative design which consisted of experimental group (application user) and control group (non-application user) that shows an increase in the number of passes for the course from 23.5% to 52.9%. The study is useful in providing templates for educators to self-develop their own contents in providing a blended learning approach to enhance student's knowledge. It was also found that the use of IR4.0 technologies such as cloud computing will make such a great impact on the development of Education 4.0.

### **C03: Intention to Purchase Organic Products in Malaysia: Using Partial Least Squares Structural Equation Modelling (PLS-SEM)**

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**Abstract.** The word “organic” become a new phenomenal in our daily modern life style as more people adopting a healthier lifestyle. They believed that by consuming organic products which are free from chemical fertilizers and pesticides, their lives will become healthier, safety guarantee and gradually can reduce or avoid chronic diseases. Organic food is the most popular among other organic products such as toiletries, perfumers etc. In Malaysia, the growing of organic industry is continuously due to consumer demand of organic food and products is rising in recent year. Thus, the objective of this study is to examine the relationship between independent factors (attitude, health, knowledge, and subjective norms) towards the intention of purchasing organic foods. A quantitative study by focusing on casual study was designed. Non-profitability sampling technique was used due to unknown population consume organic foods in Malaysia. Convenience and snowball sampling method were employed as it was the easiest accessible way to distribute questionnaire and it was continuously spread out to other consumers. Data was analysed by PLS-SEM. The findings showed that knowledge and subjective norms have positive relationship towards the intention to purchase organic products in Malaysia. In conclusion, H3 and H4 were supported. Meanwhile, H1(attitude) and H2 (health) were unsupported.

*Keywords: Attitude, Health, Knowledge, subjective norms, intention, organic products.*

### C05: Interactions and Internationalisation of Small, Medium Enterprises

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**Abstract.** The internationalisation of Small Medium Enterprises (SMEs) in developing countries has been facilitated and assisted by numerous interactions with the relevant service providers. However, the interaction between SMEs and the service providers is not well understood and contributes to a lack of studies concerning the process of interaction. As such, this study identifies and explores the interaction process between SMEs and the service providers in terms of internationalisation. The interaction process utilises the co-creation perspective which involves the elements of dialogue, access, risk assessment and transparency. It is essential for the service providers to assist and facilitate SMEs to support their internationalisation for national economic contribution and the growth of firms. Hence, the main objective of this study is to explore the interaction process between SMEs and the service providers with respect to

### C06: Design, Analysis and Build Motorcycle Transmission Drive Extension Device

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**Abstract.** In many developing countries, motorcycle has popularly becoming the mass medium of transportation. It's growth usage has increased rapidly as to solve the common needs and various applications. One of the potential applications is to design a device to link with drive system for the purpose of additional machinery attachment. This will make motorcycle as mobile drive system useful for remote area where fix machinery is hard to transport. Transmission drive extension proposed is attached to the motorcycle drive system consist of front sprocket, rear sprocket and drive chain. The front sprocket is attached to the engines transmission output shaft and it rotates at the same time. The power transfer through drive chain links to the rear sprocket attached to the rear wheel. The extension is designed by using Triz Method, while stress analysis is gathered from Finite Element Analysis (FEA). The simulation runs by applying 1332 N force on the teeth with 2000 rpm from motorcycle engine. The torque from engine speed is measured by using motorcycle engine dyno. Eventually, it'll be reviewed with some design's modification. The parts is acquired from commercial of the shelves or fabricated before the assembling process of components. Results has provenly shown the important function of power transmission device and it's measurement of output speeds from the extension shaft. An application of this extension can be vary such as mobile power source for water pump for irrigation and shredder machine for plastics or organics waste from farm.

### C12: A Model of Growth Through Social Innovation

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**Abstract.** Social innovation brings market economy strengths to bear on social issues. It is one of major transformation approach for delivering impactful outcomes for community and organization. The objective of this study is to suggest the theoretical relationship between social innovation and social enterprise growth through the Schumpeter approach. In addition, other factors were considered, primarily the role of social capital and social business model. Both play an important role in enabling social enterprises to obtain the needed resources for growth.

### C14: Analytical Modelling of Premises- Specific Solar-Energy Estimation

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**Abstract:** Solar energy is great potential for future energy due affordability of solar related panels and equipment. Solar-Energy Microgrid for serving DC and AC loads of areas under consideration. Microgrid is a new concept for making safe, clean, and renewable solar available for use. Most of the countries have developed it solar farm in order to harvest the energy and make it useable for daily use. This energy can be used either for premises-specific loads and also distributed to other

regions through the national grid through what is called Distributed Generation (DG). Estimating solar energy potential estimation of premises under target is obviously an exercise that may prove in the design of such DG microgrids. This paper presents two analytical modelling approaches for estimating the solar energy potential of a given geographical location. The two approaches are explored for estimation two very closely related amount of solar energy in kWh for eleven hours of time of a day using Heliocentris Hybrid Energy Lab-System data. The approaches may find utility in the pursuits of the renewable energy estimation needed for designing PV-solar microgrid. The mismatch of 6.31% energy estimation between the two approaches may be due to parametric complaint inaccuracy instead of the approaches employed.

### **C32: Post-internship Skills Gap Identification Among Malaysian Engineering Students**

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**Abstract.** Internship is one of the linkages programmes between higher learning institutions and the industries where it has become a common practice for students to undergo work-based trainings prior graduation to hone their skills and to experience real workplace trainings. Apart from providing on-job trainings, such

practice has helped students to develop range of skills needed to perform in real workplaces. Numbers of studies have been conducted to identify the skills that are needed by the employers as means to inform and improvise higher learning institutions' academic practice however the perspectives of students are often overlooked. Furthermore, surveys conducted to represent general characteristics of a population, which might lack in-depth explanation that helps frame further actionable plans. Hence, this study seeks to identify the post-internship skills gap from the perspectives of Malaysian engineering students through qualitative approach. Thematic analysis of final internship reports has been conducted to identify the skills gap which encompass the in-depth discussion on the skills that are needed by the employers or to perform tasks effectively, and the skills deemed to be useful for future professional development. Through students' reflective writing analysis, the findings indicate that internship fostered numbers of skills which are perceived crucial for Malaysian engineering students' professional development. As a conclusion, the identification of skills gap through the lens of students' perspective as means to improvise current practice of internship in the higher learning institution is put forth and highlighted through qualitative analysis.

**Keywords:** *internship, engineering students, professional skills reflection, reflective writing*

**C36: Readiness of Change Leadership Practices in the sustainability of International Baccalaureate Diploma Program (IBDP) in MARA College**

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**ABSTRACT**

This qualitative study aims to explore readiness of change leadership practices in the sustainability of International Baccalaureate Diploma Program (IBDP) in MARA College. Semi-structured interviews were conducted with 20 respondents consisting of top-level leaders and seniors teachers in MARA College. The objective of this qualitative exploratory case study is to examine in-depth the readiness of change leadership practices to sustain IBDP in MARA College. The findings show that top-level leaders and seniors teachers in various subjects experienced three deductive themes readiness of change which are unfreeze, change and refreeze in maintaining the sustainability of IBDP in MARA College. From the interview, inductive code emerged tabulated as a network and table.

*Keywords: Readiness of change, Leadership Practices, Sustainability of IBDP.*

**C38: School-Based Substance Use Prevention Programs, Formulated Education Modules.**

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**Abstrak.** To survey the need analysis for developed the substance abuse prevention element for an educational module. The aims were to determine what elements are needed to include on prevention module. *Methods:* The questionnaire was given to 120 counselors to answer the need analysis survey, and the results were interpreted using SPSS. The literature from a few years ago researches also were reviewed. This study evaluated a school-based intervention in reducing substance use among adolescents. A few elements in school-based prevention program discussed. Data were collected from the literature review and need analysis. *Result:* From the data achieved the needs for education modules formulated and discussed. An element in Life Skill Training dan resilience intervention is the best element in the substances abuse module. The result in the literature review shows that Life skill training gave a high impact on the intervention program. *Conclusion:* Counsellor needs to developed effective early and indicated intervention for youth to developed their life skill and resilience. *Practice implementation:* From the need analysis showed that the prevention dan education module for substance abuse need to developed for adolescent and youth prevention and education nowadays.

**C39: Development of Sustainable  
Supplier Selection Model Using  
DEMATEL for Manufacturing  
Industry**

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**Abstract.** A Sustainable Supplier Selection in supply chain becomes a key strategic evaluation to sustain in a competitive manufacturing environment. Thus, a careful consideration in supplier selection should be identified and prioritised. For this reason, the studies were carried out to determine and analyse the elements that contributes to the establishment of the sustainable supplier selection. To investigate the effectiveness of Sustainable Supplier Selection in the manufacturing Industry, a questionnaire was chosen to collect data from experts. Using a Decision Making Trial and Evaluation Laboratory (DEMATEL) method a Causal model was then established. These model shows that the priorities for WSP is WSP 4 (Manufacturing Cost Reduction). This finding is significant for manufacturing firm to establish a sustainable supplier in the supply chain management. Highly focuses on al

These factors as a part of in their decision making stage for supplier selection will ensure their operation are in the sustainable manufacturing environment.

elements and feedback characteristic that will increase students engagement and motivation in learning Programming Language the will be further apply in providing gamification framework in future study. Keywords— gamification; game elements; feedback; programming language, engagement, motivation

### **C42: Gamification in Learning Programming Language**

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**Abstract.** In this study we present an approach for using gamification elements to increase students' engagement and motivation in learning Programming Language. Programming Language is one of the toughest subjects for Computer Science students with large number of students who drop out of the course, hence finding new ways is very significant in order to get them engage and motivate. Gamification has been recently implemented in many areas from business to education. Gamification is defined as the use of game elements in a non-game context in increasing students' engagement and motivation particularly in learning Programming language. In this paper, we focus on investigation suitable game elements to be implemented in this learning by referring to previous studies. The finding of this study propose the use of game



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# **CONFERENCE**

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## CONFERENCE LISTING

NO	TITLE	REG. ID
1	FACTORS INFLUENCING ONLINE SHOPPING BEHAVIOUR INTENTION : THEORY OF PLANNED BEHAVIOUR APPROACH	C04
2	A QUALITATIVE STUDY OF MANFAAT DISTRIBUTION PATTERN OF WAQF AS SOCIOECONOMIC TOOL.	C07
3	A GALLERY WALK TO REMEMBER	C20
4	PERSONALITY TRAITS, ENVIRONMENT AND EMOTIONAL INTELLIGENCE: ARE THEY WEDGED THE ENTREPRENEURSHIP INTENTION.	C22
5	RELEVANCE OF METAPHYSICS ON FUNCTIONAL PERFORMANCE OF COMMERCIAL BUILDING DESIGN	C28
6	EARLY DESCRIPTIVE RESEARCH ON FACTORS THAT INFLUENCE THE BUSINESS FINANCING REPAYMENT AMONG THE LENDERS	C29
7	HOW FAR THE EFFECTIVENESS THE MALAYSIAN STUDIES SUBJECT IN DEVELOPING PATRIOTISM AMONG IN DIPLOMA IN HEATING, VENTILATING AND AIR - CONDITIONING TECHNOLOGY (HVAC) 3RD AND 4TH SEMESTER STUDENTS AT INSTITUT KEMAHIRAN MARA SIK.	C31
8	EFFECT OF DRYING DURATION ON PRODUCTION OF SABAH SNAKE GRASS (CLINACHANTUS NUTANS) BOTANICAL DRINK	C37
9	HUMAN RESOURCE : SCIENTIFIC BASIS OF DISTRIBUTIVE JUSTICE WITHIN WAQF CONTEXT	C41
10	DEVELOPMENT OF AUTHENTIC LEARNING MODEL FOR TEACHING AND LEARNING ACTIVITIES IN MALAYSIAN POLYTECHNICS	C44
11	HUMAN RESOURCE: THE MOST IMPORTANT ASSET IN DEVELOPING IDLE WAKAF LANDS.	C45
12	PAHANG RIAU SHIRTS: SPECIALTY PIECES AND MATERIAL IN SHIRT PRODUCTION	C46

**C04: Factors Influencing Online Shopping Behaviour Intention: Theory of Planned Behaviour Approach**

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**Abstract.** This study investigates consumers' online shopping behavior intention and identify the factors that influence their intention to shop online based on Theory of Planned Behaviour (TPB). The study used quantitative approach. Samples comprised of 118 of respondents through convenience sampling method conducted in three main shopping malls in Kuantan. Partial Least Square (PLS) technique of Structural Equation Modelling (SEM) was used to test the relationship between the research model construct. The study's findings show that subjective norm and perceived behavioural control play important role and have positive relationship with online shopping behavior intention. On the other hand, attitude is not a significant predictor to online shopping behavior intention. The findings from this study will be useful and provides knowledge to sellers, manufacturers as well as web developers to improve their services.

**C07: Reducing wealth Inequality: Lesson learned from waqf**

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**Abstract.** Many studies try to explore how wealth distribution could be achieved on a large scale. The answer is to be found in the Waqf ecosystem. Using content analysis and experts' opinion, this study tries to explore the Waqf modus during its glory periods; Prophet Muhammad SAW and his companions, as well as Mamluk era. It was found that wealth distributions were clearly shown in both eras. Besides, the study also found at least five lessons that could be learned from the excellent functionalism of Waqf in reducing wealth inequality holistically and moving forward to an excellent future.

*Keywords: Waqf, Socio-economic Inequality, Sustainable Development Goal (SDG), history.*

**C20: A Gallery Walk to Remember**

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**Abstract.** Gallery Walk is a favourite kinaesthetic learning activity. Many students get bored with the traditional teaching of grammar and they do not want to use traditional course books which are not related with the context and their aims. The present paper aims to investigate the effectiveness of using a Gallery Walk in the teaching of Parts of Speech. By using Gallery Walk as a grammar learning activity for Parts of Speech, this kinaesthetic activity gives teachers opportunities to extend the concepts and at the same time it includes students in the lesson as peer's partners. Students become more active and independence participants in their learning. Result of the assessment also showed the positive impact of this teaching and learning activity.

*Keywords: Gallery Walk, Motivation, Parts of Speech, Grammar*

### **C22: Personality Traits and Environment: Are They Wedged the Entrepreneurship Intention**

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**Abstract.** This study aims to identify the relationship and influence between personality traits and environmental factors with entrepreneurship intention among Institut Kemahiran MARA (IKM) students. The independent variables are personality traits and institution environmental factor. The dependent variable is the entrepreneurship intention. This study is adapted Luthje and Franke (LFM) Model in exploring all the factor mentioned in identify their influences towards

entrepreneurship intention. A total of 570 students from four IKM gave their feedback in this study. All data were collected via a survey using questionnaires that contains four major elements with 57 Likert-scale items. The relationships of personality traits and environmental factors with the entrepreneurship intention were analysed using Pearson correlation test. Correlation analysis shows that the personality traits and environment have a positive relationship with students' entrepreneurship intention.

*Keywords: Personality traits, environment factors, entrepreneurship intention, and Institut Kemahiran MARA.*

### **C28: Relevance of Metaphysics on Functional Performance of Commercial Building Designs**

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**Abstract.** This paper presents the findings of a study on the relevancy of metaphysics on functional performance of commercial building design. Similarities in principles on building design and planning practices by three major Asian cultures, the Chinese-Buddhist, Indian-Hindu, and Malay-Islam, are looked into. The main aim of the study was to find out whether the selected existing building designs were in compliance with any metaphysic theories and conformance with certain an

established standard commercial building design guidelines. A total number of 13 commercial premises owned by Government agency were selected and of these, six were categorized under “performing”, while seven were “non-performing”. Two locally well-known commercial premises were used as “benchmark”. An observational procedure was devised in the analysis process, which was based on combination technique done previously by others. The findings reveal some evidence that metaphysics had certain influence towards functional performance of the commercial buildings and could be considered to complement the modern design practices. However, further analysis needs to be carried out involving larger number of samples and area coverage to confirm the findings of the present study. The paper concludes that metaphysical approaches could still play its roles in the commercial building design today.

*Key Words: Metaphysics; Commercial Building; Functional Performance*

**C29: How Far The Effectiveness The Malaysian Studies Subject In Developing Patriotism among In Diploma In Heating, Ventilating And Air - Conditioning Technology (HVAC) 3rd And 4th Semester Students at Institut Kemahiran MARA Sik.**

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**Abstrak.** Patriotisme is a special emotions for country, all emotion identity individually for nation, worries as main concern for country welfare and readiness to sacrifice for the country benefits. This research are made to see how much the effectiveness this subject (Malaysian Studies) that learnt by the students of Diploma Teknologi Penyejukkan dan Penyamanan Udara (PPU) in Institut Kemahiran MARA Sik in order to show the spirit of patriotism. The outcome of this research can be as measure for the administration to make sure the main objectives of this subject its existence are achieved. This research are made to see the four(4) main factors which in students background, methods are teaching and learning, syllabus development and mass media influences. This research have been used simple questionnaire upon 33 students in semester 3 dan 4 in IKM Sik.

*Keywords: patriotisme, Malaysian Studies, PPU Students, IKM*

**C37: Effect of Drying Duration on Production of Sabah Snake Grass (*Clinachantus Nutans*) Botanical Drink.**

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**Abstract.** This study was carried out to investigate the effect of drying duration of Sabah Snake Grass (*Clinachantus Nutans*) botanical drinks on sensory properties, total phenolic content (TPC) and antioxidant activity. Three types of drinks samples were produced using a Sabah Snake Grass leaves which dried by oven method at temperature 45°C for 2 days for Formulation 1 (F1), 5 days for Formulation 2 (F2) and without drying (FS). Sensory analysis is performed to determine the level of panel acceptance of attribute such as color, taste, aroma and overall acceptance of Sabah Snake Grass drinks. Next, all samples were analyzed to determine total phenolic content and antioxidant effect via 2, 2-diphenyl-2-picrylhydrazil (DPPH) scavenging activity. For sensory analysis, F2 resulted highest acceptance level by panelist compared to F1 and FS for all attributes and overall acceptance. Based on the result, F2 also showed highest total phenolic content (0.78 ppm) and highest percentage of inhibition compared to other samples. The results showed drying process could increase the acceptance level of panelist, phenolic content and scavenging activity of the Sabah Snake Grass drinks.

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**Abstract.** In a way, waqf property can be a permanent protection instrument for the ummah. However, justice being critical in identifying waqf beneficiaries as venturing into property is risky and pressures due to the market volatility Besides waqf property also devoted to secure ever-increasing flow of revenues to serve the objectives indicated by the wakif. This paper offers an insight of a success existing and proposed definitions of distributive justice within waqf context were review. Using semantic analysis, this paper tries to scrutinize waqf distributive justice practices by the State Islamic Religious Council in Malaysia. It was found that at least four segmentation of recipients of waqf income that promotes distributive justice and waqf sustainability

*Keywords:*

*Waqf, Distributive Justice,*

*Sustainable*

#### **C41: Distributive Justice within Waqf Context**

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#### **C44: Development of Authentic Learning Model for Teaching and Learning Activities in Malaysian Polytechnics**

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**Abstract.** Authentic learning enables integration of formal learning in classroom with real-world situations. In higher education, this is very practical to be implemented especially for engineering programmes that link the classroom activities to the real world application. In Malaysian Polytechnics, lecturers are not clear in implementing authentic learning although the implementation techniques are general and promote the meaningful learning. Hence, this study intended to develop authentic learning model to guide lecturers. This study was conducted in three phases with using Design and Development Research (DDR) approach. Phase 1 involves needs analysis using questionnaire, while in Phase 2, the model was developed by using Interpretive Structural Modelling (ISM) software. The model then was evaluated in Phase 3. The model consisting of 13 authentic learning activities was successfully developed in this study. The model then was divided into three other phases after the evaluation had been made: the initial phase, implementation phase and evaluation phase.

*Keywords: Authentic learning model, Nominal Group Technique (NGT), Interpretive Structural Modelling (ISM).*

### **C45: Human Resource: The Most Important Asset in Developing Idle Waqf Lands.**

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**Abstract.** The potential Waqf property value in Malaysia at this moment is estimated at US\$300 billion. However many Waqf properties in Malaysia did not achieve the intention of the Waqif because they either were not fully utilised or were not built upon strategically resulting in low returns.

One of the main problems is weak Waqf management.

A bigger implication is less attractive investment that is not accepted by the community at large especially Muslims and the effect is it is not able to attract the best brains for managing it.

Skills and expertise required for managing Waqf property more effectively is based solely on prevailing human resources philosophy, as can be seen to at times be in mismatch with what is available, officers bogged down with other more pressing matters, little serious effort to actually push for Waqf land development successfully, etc. need to be rethink.

Waqf category with suitable Islamic Investment Procedures, enabling the offer of a more suitable and systematic management also need to have its benefits and implications studied.

*Keywords: Waqf Property, Category, Waqf Management, Islamic Investment Procedures.*

#### **C46: Pahang Riau Shirts: Specialty Pieces and Material in Shirt Production**

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**Abstrak.** Baju Kurung is a type of traditional attire used by Malay descendants in the Nusantara. There is a lot of variety *Baju Kurung* for women in *Tanah Melayu*, one of this attire is *Baju Riau Pahang*. This study will focus on the evolution of *Baju Riau Pahang*, using a qualitative approach aimed at identifying the shapes, pieces and fabrics used in the production of clothes that are said to have this unique shape and function. This *Baju Riau Pahang* was only worn by a certain people in the Malay World at one time who was said to be from Riau but possibility has a different name. Some researchers have argued that

these clothes can only be found in the castles and among the nobility.

However, the origins of the *Baju Riau Pahang* have not been identified to this day, although there are opinions suggesting they may be from Pahang or Johor- Riau. This clothing was also introduced in the early 20th century but it is also no evidence to support its validity. This study will discuss the evolution of the shapes and pieces of the *Baju Riau Pahang* that are said to have grown in the castle and the nobility but are now used by all walks of life.

*Keywords: shape, shape; evolution; clothes.*

# **INNOVATION & EXHIBITION**

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## INNOVATION LISTING

	Research Area	Institution	Title
1	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu	Air Conditioned Sofa Chair
2	Building Construction & Architecture (IB)	Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu	Mini Water Pump (M-WAP)
3	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu	Vehicle Accident Tracker - VaccTrack
4	Energy, Enviromental (IEE)	Kolej Kemahiran Tinggi MARA Lenggong, Perak	Annobac for Aquatic Animal
5	Science, Material, Social Science, Teaching & Training (IS)	Kolej Kemahiran Tinggi MARA Lenggong, Perak	DermaShield GeL: On-The-Go Herbal Pen
6	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Jasin, Melaka	Peralatan Membersih Permukaan Lantai dan Longkang
7	Science, Material, Social Science, Teaching & Training (IS)	Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang	Smart Poly Speed Typing (SPST)

No	Research Area	Institution	Title
8	Science, Material, Social Science, Teaching & Training (IS)	Sk IPG Kampus Dato' Razali Ismail, Batu Rakit, Terengganu	Language Learning Booster
9	Science, Material, Social Science, Teaching & Training (IS)	Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang	MacroEconomics Fun Bucket
10	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu	Car Jumper Tool Kit's
11	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Smart Socket
12	Electrical & Electronic, ICT, Multimedia (IE)	Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang	SEMAK@SPMP
13	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Universiti Kuala Lumpur Malaysian Spanish Institute, Kulim, Kedah	X-Tension Motorcycle Power Drive
14	Primary & Secondary School (IP)	High School Bukit Mertajam, Bukit Mertajam, Pulau Pinang	Green Veraquaponics

No	Research Area	Institution	Title
15	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor	Spiral Curry Puff Machine
16	Science, Material, Social Science, Teaching & Training (IS)	Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor	Pollution Mobile Urine Test Kit (MUT Kit)
17	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor	Smart Palm Sickle
18	Primary & Secondary School (IP)	Maktab Rendah Sains MARA Kuala Krai, Kelantan	Empowering English Language
19	Energy, Enviromental (IEE)	Institut Kemahiran MARA Seberang Prai Utara, Pulau Pinang	Wind From Air Conditioning as Renewable Energy
20	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran MARA Seberang Prai Utara, Pulau Pinang	Intelligent Energy Monitoring System
21	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Automatic Sauce Dispenser

No	Research Area	Institution	Title
22	Science, Material, Social Science, Teaching & Training (IS)	Kolej Profesional MARA Indera Mahkota, Kuantan, Pahang	Easyboard
23	Primary & Secondary School (IP)	Sk IPG Kampus Dato' Razali Ismail, Batu Rakit, Terengganu	byP4P - 21st Century Bulletin
24	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran MARA Sik, Kedah	Solah Training Kit
25	Energy, Environmental (IEE)	MARA Japan Industrial Institute, Beranang, Selangor	Power From
26	Science, Material, Social Science, Teaching & Training (IS)	MARA Japan Industrial Institute, Beranang, Selangor	Ticker Timer
27	Science, Material, Social Science, Teaching & Training (IS)	Pusat Latihan Teknologi Tinggi (ADTEC) Jerantut, Pahang	Pembangunan dan Rekabentuk Tangan Prostetik (PLASTECH)
28	Electrical & Electronic, ICT, Multimedia (IE)	Cawangan Kejuruteraan Elektrik JKR Kuantan, Pahang	FA Pedestrian Controller

No	Research Area	Institution	Title
29	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	The Hydraulic Jack Safety Components
30	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	IOT Implementation for Proper Garbage Management System at Hostel
31	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Ledang, Johor	Vehicle Theft Notification by Using Arduino UNO and GSM Module
32	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Ledang, Johor	Stabwalk Therapy
33	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Petaling Jaya, Selangor	Automated Light Control for IOT Application
34	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Ledang, Johor	Orthodontic Indices Digital Analysis System
35	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Petaling Jaya, Selangor	Smart Waste Management System

No	Research Area	Institution	Title
36	Science, Material, Social Science, Teaching & Training (IS)	Institut Pendidikan Guru Kampus Sultan Mizan, Besut, Terengganu	i-Weather Signal Prediction: Effects of Tropical Weather Predictors on Received Signal Strength (RSS) in Ultra High Frequency (UHF) Band
37	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi Mara Petaling Jaya, Selangor	Attendance System
38	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	The Wheelbarrow Using Arduino Uno and Linear Motor
39	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Latihan Perindustrian Marang, Terengganu	Indicator for Brake Lamp (INBREL)
40	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Petaling Jaya, Selangor	E-Healthy Monitoring
41	Oil and Gas (IO)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Auto Gas Detector with Siemens Logo
42	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Lumut, Perak	MORBLOV - Multipurpose Organic Recycling Blower and Vacuum Machine

No	Research Area	Institution	Title
43	Oil and Gas (IO)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Smart Gas Detector
44	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Cocofiber Machine
45	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Fish Feeder Machine
46	Energy, Enviromental (IEE)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Auto Sorting Recycle Bin
47	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Ledang, Johor	Smart Laboratory Notification System (SLANS)
48	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Sik, Kedah	Smart Industrial Bending Machine
49	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran MARA Sik, Kedah	Home Voice Recognition Model Training Kit (HAVOC)

No	Research Area	Institution	Title
50	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Ledang, Johor	Home Automation System Using IOT.
51	Energy, Environmental (IEE)	MARA Japan Industrial Institute, Beranang, Selangor	IOT Temperature & Air Monitoring
52	Primary & Secondary School (IP)	Kolej Vokasional Likas, Sabah	Electric With Remote Control Wheelbarrow
53	Science, Material, Social Science, Teaching & Training (IS)	Kolej Kemahiran Tinggi MARA Lenggong, Perak	Instant Moringa Cupcake
54	Primary & Secondary School (IP)	MRSM Kuala Kubu Bharu, Hulu Selangor, Selangor	Ecosegar-Enviro Pot & Machine
55	Science, Material, Social Science, Teaching & Training (IS)	Kolej Profesional MARA Beranang, Selangor	Speak Up! an Oratory Board Games
56	Science, Material, Social Science, Teaching & Training (IS)	Sunway University, Petaling Jaya, Selangor	E-Learning Solution: Introduction of JITJOT Web App as a Writing Accelerator for Millennial Learners



No	Research Area	Institution	Title
57	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran MARA Besut, Terengganu	Generator Fuel Saver and Green Energy Power
58	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Universiti Putra Malaysia, Serdang, Selangor	A Device to Separate a Mesocarp from a Nut of a Drupe (ROTADISC)
59	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur	Ekon.my
60	Primary & Secondary School (IP)	SK Bandar Behrang, Tanjong Malim, Perak	Ecosegar-Enviro Cycle Charger
61	Primary & Secondary School (IP)	SK Bandar Behrang, Tanjong Malim, Perak	Ecosegar-Enviro Straw
62	Science, Material, Social Science, Teaching & Training (IS)	Institut Teknologi Maju, Universiti Putra Malaysia, Serdang, Selangor	PALMTAB-i (Oil Palm Empty Fruit Bunch Tablet Corrosion Inhibitor)
63	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Balik Pulau, Pulau Pinang	Safety Socket

No	Research Area	Institution	Title
64	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Lumut, Perak	Sewerage Cleaning Stick Set
65	Science, Material, Social Science, Teaching & Training (IS)	Kolej Kemahiran Tinggi MARA Kuantan, Pahang	PLC EDU KIT
66	Science, Material, Social Science, Teaching & Training (IS)	Politeknik Muadzam Shah, Pahang	PLC Programming Using Factory I/O
67	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Kolej Kemahiran Tinggi MARA Balik Pulau, Pulau Pinang	Mini Eggs Cleaner Machine
68	Oil and Gas (IO)	Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu	Instrumentation Loop Tester (i-TESTER)
69	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran Belia Negara (IKBN) Kemasik, Kemaman, Terengganu	Room Sensation Apps (ROSA) as a Vip Treatment for Hotel Industry in Malaysia
70	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Kaze Charger

No	Research Area	Institution	Title
71	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	MYKAD Base Security Door Lock System with Web Browsing Notification
72	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Fire Alert System for Industrial Machine (F.A.S.I.M)
73	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	IOT (Internet of Things) Smart Home Disaster Sensor Using Arduino
74	Energy, Environmental (IEE)	MARA Japan Industrial Institute, Beranang, Selangor	Portable Mizu Generator
75	Building Construction & Architecture (IB)	Kolej Kemahiran Tinggi MARA Kuantan, Pahang	TAP Guide
76	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Kolej Kemahiran Tinggi MARA Kuantan, Pahang	EZY Bind
77	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran Belia Negara Pekan, Pahang	Pipeline Hydrostatic Pressure Testing Integrated (PHyPTI) Training Kit

No	Research Area	Institution	Title
78	Science, Material, Social Science, Teaching & Training (IS)	Kolej Profesional MARA Indera Mahkota, Kuantan, Pahang	Innovate Lesson Plan
79	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Blind Control by Using Voice Through Android Application
80	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Tennis Ball Tracking and Acquiring Using Vision Systems
81	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Key Management System
82	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Wireless Archery Timer
83	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Secret Knock Door Detecting Door Lock
84	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran Belia Negara Pekan, Pahang	Kelulut Hive Security Monitoring System (KHSMS)

No	Research Area	Institution	Title
85	Electrical & Electronic, ICT, Multimedia (IE)	MARA Japan Industrial Institute, Beranang, Selangor	Portable Self Service Library Books Return System Using IOT
86	Primary and Secondary School (IP)	SK Sultan Sulaiman 1, Kuala Terengganu, Terengganu	Snatch Theft Buster
87	Primary and Secondary School (IP)	Maktab Rendah Sains MARA Tun Ghafar Baba, Jasin, Melaka	PLINK
88	Primary and Secondary School (IP)	Maktab Rendah Sains MARA Tun Ghafar Baba, Jasin, Melaka	SMART Sawah
89	Primary and Secondary School (IP)	SK Sultan Sulaiman 1, Kuala Terengganu, Terengganu	Lib' Aide
90	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur	Mini Power Bank
91	Electrical & Electronic, ICT, Multimedia (IE)	Institut Kemahiran MARA Beseri, Perlis	E-Voting Election
92	Science, Material, Social Science, Teaching & Training (IS)	MRSM Johor Bahru ,Johor	Art and Design Learning Kit

No	Research Area	Institution	Title
93	Building Construction & Architecture (IB)	Institut Kemahiran MARA Lumut, Perak	SMART Iron Board
94	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran MARA Lumut, Perak	SMART Learning Machinery
95	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Universiti Putra Malaysia, Serdang, Selangor	Banana Peeler
96	Energy, Enviromental (IEE)	Institut Kemahiran MARA Lumut, Perak	Reusable Aircond Water Discharge for Enviromental Usage
97	Building Construction & Architecture (IB)	Institut Kemahiran MARA Lumut, Perak	Smart Flush Football Field System
98	Building Construction & Architecture (IB)	Institut Kemahiran MARA Lumut, Perak	
99	Science, Material, Social Science, Teaching & Training (IS)	Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur	Spirit Congkak

No	Research Area	Institution	Title
100	Science, Material, Social Science, Teaching & Training (IS)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	The Investigation of Heat Resistance Particle Board Made from Waste Material by Using Optimization Formula
101	Electrical & Electronic, ICT, Multimedia (IE)	Institut Latihan Perindustrian Ayer Keroh, Melaka	Unique Projector Mounting V2
102	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Latihan Perindustrian Ayer Keroh, Melaka	Mud Ball Mould Mechanical
103	Energy, Enviromental (IEE)	Institut Latihan Perindustrian Ayer Keroh, Melaka	Stair Climbing Trolley 4.0
104	Electrical & Electronic, ICT, Multimedia (IE)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	SMART Clean
105	Energy, Enviromental (IEE)	Kolej Kemahiran Tinggi MARA Kemaman, Terengganu	Portable Flood Water Detector using Ultrasonic Method
106	Primary and Secondary School (IP)	SMK Mak Lagam, Kemaman, Terengganu	Smart Window System
107	Primary and Secondary School (IP)	SMK Mak Lagam, Kemaman, Terengganu	Item Navigation Trolley (INT)

No	Research Area	Institution	Title
108	Science, Material, Social Science, Teaching & Training (IS)	Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang	Sistem Pengurusan Makmal Mikrobiologi (MICROSYS)
109	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Besut, Terengganu	250 Monoshock Remover/Installer
110	Manufacturing Process, Machines & Equipment, Aotumotives (IM)	Institut Kemahiran MARA Besut, Terengganu	Crankshaft Bearing Remover/Installer
111	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	COEFIBLIZER
112	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	Soy Waste Based Flour
113	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	Co-Co Rodenticide
114	Primary and Secondary School (IP)	SMK Mak Lagam, Kemaman, Terengganu	Geranium Candle
115	Primary and Secondary School (IP)	SMK Mak Lagam, Kemaman, Terengganu	Eco-Nomic Ink



No	Research Area	Institution	Title
116	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	Hydro Vase
117	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	The Automatic Circuit Breaker (ACB)
118	Primary and Secondary School (IP)	Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor	CITRONIDE

**01 Project Name:**

**Air Conditioned Sofa Chair**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu

**Presenters:**

Mohd Safari bin Abd Rahman <sup>1</sup>, Syahriman bin Muhamad Kasim <sup>2</sup>

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**02 Project Name:**

**Mini Water Pump (M-WAP)**

**Field:** Building Construction & Architecture (IB)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu

**Presenters:**

Mohamad Ridzuan Bin Kamaruzaman <sup>1</sup>, Norsalinda Bt Yusuf <sup>2</sup>, Muhamad Haziq Bin Mohd Rosni<sup>3</sup>,  
Mohamad Khairul Izzudin Bin Zu<sup>4</sup>, Muhamad Jalaludin Bin Abu Yamin<sup>5</sup>

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**03 Project Name:**

**Vehicle Accident Tracker - VaccTrack**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu

**Presenters:**

Nasiruddin Bin Sadan<sup>1</sup>, Nor Amirul Arif Bin Johari<sup>2</sup>, Muhammad Al Nazirulhafiz Bin Md Fauzi<sup>3</sup>,  
Muhammad Khalish Bin Abdul Naser<sup>4</sup>, Nursyafiqah Binti Minto<sup>5</sup>

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**04 Project Name:**

**Annobac for Aquatic Animal**

**Field:** Energy, Enviromental (IEE)

**Institution:** Kolej Kemahiran Tinggi MARA Lenggong, Perak

**Presenters:**

Nor Azah Binti Zainol<sup>1</sup>, Nur Farah Amalina Binti Mughni<sup>2</sup>, Muhammad Haikal Bin Syahya Rizal<sup>3</sup>, Amirul Amin Bin Mohamed Tarmizi<sup>4</sup>, Nur Amirah Nazwa Binti Mughni<sup>5</sup>

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**05 Project Name:**

**DermaShield Gel: On-The-Go Herbal Pen**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Kemahiran Tinggi MARA Lenggong, Perak

**Presenters:**

Nur Aqilah Zulkifli<sup>1</sup>, Farah Suhana Mansor<sup>2</sup>, Hazatulhasda Kamaruddin<sup>3</sup>, Farah Wahida Azman<sup>4</sup>, Muhammad Amerul Adha Bin Saayah<sup>5</sup>

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**06 Project Name:**

**Peralatan Membersih Permukaan Lantai dan Longkang**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Kemahiran MARA Jasin ,Melaka

**Presenters:**

Othman Bin Mohamed<sup>1</sup>, Muhammad Soleh Bin Achim<sup>2</sup>, Noor Azali Bin Naim<sup>3</sup>, Basar Bin Azli<sup>4</sup>, Nur Amirah Nazwa Binti Mughni<sup>5</sup>

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<sup>4</sup>basarazli551@gmail.com

**07 Project Name:**

**Smart Poly Speed Typing (SPST)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang

**Presenters:**

Zaidazuriani Binti Mohd Zamli <sup>1</sup>, Fardhila Syahira Binti Salmi Nordin <sup>2</sup>, Fauziah Binti Esman <sup>3</sup>, Amirul Amin Bin Mohamed Tarmizi <sup>4</sup>, Nur Amirah Nazwa Binti Mughni <sup>5</sup>

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**08 Project Name:**

**Language Learning Booster**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Sk IPG Kampus Dato' Razali Ismail, Batu Rakit, Terengganu

**Presenters:**

El Gamillo Bin Habibun Tan<sup>1</sup>, Nurul Izzwaida Binti Norizan<sup>2</sup>

<sup>1</sup> gamillo80@gmail.com, <sup>2</sup> nurulizz54@gmail.com

**09 Project Name:**

**MacroEconomics Fun Bucket**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang

**Presenters:**

Fardhila Syahira Binti Salmi Nordin <sup>1</sup>, Rozila Binti Hassan <sup>2</sup>

<sup>1</sup> syahira.salmi.poli@1govuc.gov.my, <sup>2</sup> rozila@polisas.edu.my

**10 Project Name:**

**Car Jumper Tool Kit's**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu

**Presenters:**

Nik Mohd Farid Bin Nik Hassan <sup>1</sup>, Fazariq Izham Izzudin Bin Mustaffa <sup>2</sup>, Akmal Bin Abdullah <sup>3</sup>, Nur Aini Khairunnisa Binti Mohd Rodzhi <sup>4</sup>

<sup>1</sup> nikmohdfarid.adteckmn@gmail.com

**11 Project Name:**

**Smart Socket**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Azrul Hazri Mohd Takhir <sup>1</sup>, Muhammad Ismail Najmi Bin Saiful Amin <sup>2</sup>, Mohamad Atiq Irfan Bin Laizani <sup>3</sup>

<sup>1</sup> hazri.takhir@mara.gov.my, <sup>2</sup> ismailnajmi98@gmail.com, <sup>3</sup> atiqirfan30@gmail.com

**12 Project Name:**

**SEMAK@SPMP**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang

**Presenters:**

Mohd Asnawi Bin Abd Wahab <sup>1</sup>, Mohd Zuhaimi Bin Zolkifli <sup>2</sup>

<sup>1</sup> asnawi@moe.gov.my, <sup>2</sup> zuhaimizul@polisas.edu.my

**13 Project Name:**

**X-Tension Motorcycle Power Drive**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Universiti Kuala Lumpur Malaysian Spanish Institute, Kulim, Kedah

**Presenters:**

Noorhelinahani Abu Bakar <sup>1</sup>, Aznizam Abdullah <sup>2</sup>, Mohd Shukor bin Salleh <sup>3</sup>, Asrulwadi bin Ismail <sup>4</sup>

<sup>1</sup> noorhelinahani@unikl.edu.my, <sup>2</sup> aznizam@unikl.edu.my, <sup>3</sup> mshukor@msi.unikl.edu.my,  
<sup>4</sup> asrulwadi@unikl.edu.my

**14 Project Name:**

**Green Veraquaponics**

**Field:** Primary & Secondary School (IP)

**Institution:** High School Bukit Mertajam, Bukit Mertajam, Pulau Pinang

**Presenters:**

Masliana Binti Sahad<sup>1</sup>, Muhammad Erfaan Bin Aznizam<sup>2</sup>, Mariah Eyman Binti Aznizam <sup>3</sup>

<sup>1</sup> masliana7707@gmail.com, <sup>2</sup> ftazijan@gmail.com

**15 Project Name:**

**Spiral Curry Puff Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor

**Presenters:**

Muhamad Anuwar Bin Jusoh <sup>1</sup>, Mohd Sujari Bin Jemeran <sup>2</sup>, Wan Azizurrahman Bin Wan Hassan <sup>3</sup>,  
Suhaimi Bin Ahmad <sup>4</sup>

<sup>1</sup> anuwar.jusoh@gmail.com, <sup>2</sup> sujarijemeran@gmail.com, <sup>3</sup> w\_azizurrahman@yahoo.com,  
<sup>4</sup> suhaimiahmad@gmail.com

**16 Project Name:**

**Pollution Mobile Urine Test Kit (MUT Kit)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor

**Presenters:**

Muhamad Anuwar Bin Jusoh <sup>1</sup>, Dr. mohamad Raizul Bin Zinalibdin <sup>2</sup>

<sup>1</sup> anuwar.jusoh@gmail.com, <sup>2</sup> mdraizul@gmail.com

**17 Project Name:**

**Smart Palm Sickle**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Batu Pahat, Johor

**Presenters:**

Mohd Sujari Bin Jemeran <sup>1</sup>, Muhamad Anuwar Bin Jusoh <sup>2</sup>

<sup>1</sup> sujarijemeran@gmail.com, <sup>2</sup> anuwar.jusoh@gmail.com

**18 Project Name:**

**Empowering English Language**

**Field:** Primary & Secondary School (IP)

**Institution:** Maktab Rendah Sains MARA Kuala Krai, Kelantan

**Presenters:**

Ezahera Binti Dzaidi <sup>1</sup>, Danish Ajmal Bin Naim Adzha <sup>2</sup>, Muhamad Danish Bin Mohd Norhakimi <sup>3</sup>,  
Tengku Nurizzah Adila Bt Tengku Azhar <sup>4</sup>, Wardah Irdina Bt Zulkifli <sup>5</sup>

<sup>1</sup> ezahera@mara.gov.my, <sup>2</sup> drdanishajmal@gmail.com, <sup>3</sup> danishnorhakimi@gmail.com, <sup>4</sup> izzahazhar05@gmail.com, <sup>5</sup> wardah.chim@gmail.com

**19 Project Name:**

**Wind from Air Conditioning as Renewable Energy**

**Field:** Energy, Environmental (IEE)

**Institution:** Institut Kemahiran MARA Seberang Prai Utara, Pulau Pinang

**Presenters:**

Shamsul Bin Mohad <sup>1</sup>, Ahmad Sufian Bin Mat Isa <sup>2</sup>, Mohd Shafie Bin Abd Ghani <sup>3</sup>

<sup>1</sup> shamsul.mohad@mara.gov.my, <sup>2</sup> sufian@mara.gov.my, <sup>3</sup> shafie.ghani@mara.gov.my

**20 Project Name:**

**Intelligent Energy Monitoring System**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran MARA Seberang Prai Utara, Pulau Pinang

**Presenters:**

Shamsul Bin Mohad <sup>1</sup>, Ahmad Sufian Bin Mat Isa <sup>2</sup>, Mohd Shafie Bin Abd Ghani <sup>3</sup>

<sup>1</sup> shamsul.mohad@mara.gov.my, <sup>2</sup> sufian@mara.gov.my, <sup>3</sup> shafie.ghani@mara.gov.my

**21 Project Name:**

**Automatic Sauce Dispenser**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Suhana Binti Rashid <sup>1</sup>, Muhamad Mukhlis Ahmad <sup>2</sup>, Anisah Mardhiyyah Binti Mohamad Zaki <sup>3</sup>,  
Muhammad Safwan Bin Mohammed Nor <sup>4</sup>

<sup>1</sup> suhana.rashid@mara.gov.my, <sup>2</sup> mukhlisahmadmy@gmail.com, <sup>4</sup> wan01417@gmail.com



**22 Project Name:**

**Easyboard**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Profesional MARA Indera Mahkota, Kuantan, Pahang

**Presenters:** Nur Nubailah Binti Md Zahir<sup>1</sup>, Zuliarty Zarina Binti Abdul Mubi<sup>2</sup>, Nor Sharizad Binti Zainal Abidin<sup>3</sup>, Monisa Binti Abdul Wahab<sup>4</sup>, Azham Bin Abdul Hamid<sup>5</sup>

<sup>1</sup>nubailah.zahir@mara.gov.my, <sup>2</sup>zarina.mubi@mara.gov.my, <sup>3</sup>sharizad.abidin@mara.gov.my, <sup>4</sup>monisa@mara.gov.my, <sup>5</sup>azham.hamid@mara.gov.my

**23 Project Name:**

**byP4P - 21st Century Bulletin**

**Field:** Primary & Secondary School (IP)

**Institution:** Sk IPG Kampus Dato' Razali Ismail, Batu Rakit, Terengganu

**Presenters :** Nurul Izzwaida Binti Norizan<sup>1</sup>, Muhammad Adib Bin Azman<sup>2</sup>, Farahiya Ayuni Binti Sulaimi<sup>3</sup>, Intan Suria Binti Amishariff<sup>4</sup>, Siti Nurdamia Darwisyah Binti Mohd. Shafiq<sup>5</sup>

<sup>1</sup>nurulizz54@gmail.com

**24 Project Name:**

**Solah Training Kit**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran MARA Sik, Kedah

**Presenters :** Syahrizat Bin Azizan<sup>1</sup>, Azwin Shanida Binti Romli<sup>2</sup>, Sazali Bin Zainuddin<sup>3</sup>, Amirul Asyraf Bin Uzil Fadzli<sup>4</sup>, Muhamad Syahmi Haiman Bin Muhamad Hamdan<sup>5</sup>

<sup>1</sup>syahrizat.azizan@mara.gov.my, <sup>2</sup>azwin.shanida@mara.gov.my, <sup>3</sup>sazali.zainuddin@mara.gov.my

**25 Project Name:**

**Power From**

**Field:** Energy, Enviromental (IEE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Dr Mohd Masri Bin Abd Rashid<sup>1</sup>, Mohd Amirul Hakim Bin Azni<sup>2</sup>, Muhammad Tahfiz Bin Tono<sup>3</sup>,  
Syed Amirul Hakimi Bin Syed Mohd Yusof<sup>4</sup>, Muhammad Thaqif Aiman Bin Radzwan<sup>5</sup>

<sup>1</sup>shadowtechcorp341@gmail.com

**26 Project Name:**

**Ticker Timer**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Siti Hajar Binti Raman<sup>1</sup>, Amin Nurrashid Bin Abd Hapis<sup>2</sup>

<sup>1</sup>hajar.raman@mara.gov.my, <sup>2</sup>aminnurrashid30987@gmail.com

**27 Project Name:**

**Pembangunan Dan Rekabentuk Tangan Prostetik (PLASTECH)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Jerantut, Pahang

**Presenters:**

Azuan Failani, Mohd Sarifuddin Bin Othman@Mustafa<sup>1</sup>, Md Raizu Bin Azib<sup>2</sup>, Mohamad Syafiq Bin  
Abu Bakar<sup>3</sup>, Ahmad Farhan Bin Mat Desa<sup>4</sup>

<sup>1</sup>azuanfailani@gmail.com

**28 Project Name:**

**FA Pedestrian Controller**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Cawangan Kejuruteraan Elektrik JKR Kuantan, Pahang

**Presenters:**

Samshudin Bin Said<sup>1</sup>, Mohd Fadzrullah B. Omar<sup>2</sup>, Mohd.Noh Bin Mijan<sup>3</sup>, Nur Farizan Bt. Mohd Amadzun<sup>4</sup>, Azhar Nizam Bin Awang<sup>5</sup>

<sup>1</sup>samshudin.jkr@gmail.com, <sup>2</sup>fadzrullahomar.jkr@gmail.com

**29 Project Name:**

**The Hydraulic Jack Safety Components**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Siti Mariam Binti Mahazan <sup>1</sup>, Muhammad Nasrul Akmal Bin Muhamad Nizar <sup>2</sup>, Wan Adila Syahirah Binti Mohd Shafie <sup>3</sup>, Mohammad Azrul Ikhrum Bin Ahmad Nor <sup>4</sup>, Tengku Nor Izuanshah Bin Tengku Johan

<sup>1</sup>mariam.mahazan@mara.gov.my, <sup>2</sup>nasrul.akmal76@icloud.com, <sup>3</sup>syahirah\_adila@yahoo.com, <sup>4</sup>azrilmohd676@gmail.com, <sup>5</sup>izuanshah.johan@mara.gov.my

**30 Project Name:**

**IOT Implementation for Proper Garbage Management System at Hostel**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Norhamimi Binti Hamdan <sup>1</sup>, Muhammad Ikram Bin Roslann <sup>2</sup>, Rahmat Bin Marsudi <sup>3</sup>

<sup>1</sup>hamimi.hamdan@mara.gov.my, <sup>2</sup>ikramgerrard13@gmail.com

**31 Project Name:**

**Vehicle Theft Notification by Using Arduino UNO and GSM Module**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Ledang, Johor

**Presenters:**

Norsyarizan Bin Shahri Rashid <sup>1</sup>, Muhammad Hafiz Bin Mohamad Yusof <sup>2</sup>, Muhammad Hafiq Bin Bdrul Hisham <sup>3</sup>, Muhammad Safwan Bin Mohammed Nor <sup>4</sup>

<sup>1</sup> norsyarizan@mara.gov.my, <sup>2</sup> hafizyusofaaa@gmail.com, <sup>3</sup> hafiq0825@gmail.com

**32 Project Name:**

**Stabwalk Therapy**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Ledang, Johor

**Presenters:**

Jalil Bin Lias <sup>1</sup>, Zainal Abidin Bin Alimi <sup>2</sup>, Hj. Wagiman Bin Sokarthy <sup>3</sup>, Siti Nurdiyanah Binti Roszainizam <sup>4</sup>, Noraziah Ilyana Binti Ahmad Fairul <sup>5</sup>

<sup>1</sup>jalil.lias@mara.gov.my, <sup>2</sup>norsyarizan@mara.gov.my, <sup>3</sup>zainal.alimi@mara.gov.my, <sup>4</sup>wagiman@mara.gov.my

**33 Project Name:**

**Automated Light Control for IOT Application**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Petaling Jaya, Selangor

**Presenters:**

Hasrulnizam Bin Hashim <sup>1</sup>, Mohd Zaini Bin Abdul Majid <sup>2</sup>, Nur Aishah Binti Zainuddin <sup>3</sup>, Norazuin Binti Md Ayob <sup>4</sup>, Nur Anisa Tania Binti Mohd Zain <sup>5</sup>

hasrulnizam@mara.gov.my, <sup>2</sup>zaini.majid@mara.gov.my, <sup>3</sup>aishah.zainuddin@mara.gov.my, <sup>4</sup>norazuin.ayob@mara.gov.my,

**34 Project Name:**

**Orthodontic Indices Digital Analysis System**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Ledang, Johor

**Presenters:**

Muhamad Nurhadi Bin Salleh<sup>1</sup>, Wan Mohd Shukri Bin Wan Salleh<sup>2</sup>, Dr. Adni Binti Hamdan<sup>3</sup>, Nurhanisah Binti Zulkifly<sup>4</sup>, Siti Rokiah Binti Mohd Noh<sup>5</sup>

<sup>1</sup> nurhadi.salleh@mara.gov.my, <sup>2</sup> shukri.salleh@mara.gov.my, <sup>3</sup> adnihamdan1989@gmail.com

**35 Project Name:**

**i-Weather Signal Prediction : Effects of Tropical Weather Predictors on Received Signal Strength (RSS) in Ultra High Frequency (UHF) Band**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Pendidikan Guru Kampus Sultan Mizan, Besut, Terengganu

**Presenters:**

Roshidah Binti Mat<sup>1</sup>, Dr. Nor Hazmin Binti Sabri<sup>2</sup>, Dr. Roslan Bin Umar<sup>3</sup>, Dr. Azman Bin Omar<sup>4</sup>, Shamsuddin Bin Ahmad<sup>5</sup>

<sup>1</sup>roshidah@ipgmksm.edu.my, <sup>2</sup>norhazmin@umt.edu.my, <sup>3</sup>roslan@unisza.edu.my, <sup>4</sup>azman@ipgmksm.edu.my, <sup>5</sup>shamsuddin@ipgmksm.edu.my

**36 Project Name:**

**Attendance System**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Petaling Jaya, Selangor

**Presenters:**

Mohd Zaini Bin Abdul Majid<sup>1</sup>, Hasrulnizam Bin Hashim<sup>2</sup>, Muhammad Hafif Bin Abdul Hamid<sup>3</sup>, Ahmad Al-Mahiy Bin Aminuddin<sup>4</sup> Mohamad Saiful Bin Zaidi<sup>5</sup>

<sup>1</sup>zaini.majid@mara.gov.my, <sup>2</sup>hasrulnizam@mara.gov.my, <sup>3</sup>hafif.hamid@mara.gov.my, <sup>4</sup>ahmadmahiy24@gmail.com,

**37 Project Name:**

**The Wheelbarrow Using Arduino Uno and Linear Motor**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Mohd Radzi Bin Tarmizi <sup>1</sup>, Damia' Khalysa Binti Mohammad Nasaruddin <sup>2</sup>, Aina Batrisyia Binti Mohamad Alias <sup>3</sup> Amirah Husna Binti Ja'aris <sup>4</sup> Mohamad Saiful Bin Zaidi <sup>5</sup> Muhammad Sulaiman Bin Md Akhir

radzi.tarmizi@mara.gov.my, damiakhalysa@hotmail.com, <sup>3</sup> ainabatrissyia30@gmail.com, <sup>4</sup>ahjaaris@yes.my, <sup>5</sup> sulaiman.akhir19@gmail.com

**38 Project Name:**

**Indicator for Brake Lamp (INBREL)**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution** Institut Latihan Perindustrian Marang, Terengganu

**Presenters:**

Mohd Azam Bin Che Seman <sup>1</sup> Mohd Sufian Bin Ghlani <sup>2</sup>, Mohd Sabri Bin Mohd Nor <sup>3</sup> Mohd Khairil Amirul Bin Mohd Aziz <sup>4</sup> Mohamad Saiful Bin Zaidi <sup>5</sup> Ibrahim Bin Omar

<sup>1</sup>mohdazam@jtm.gov.my, <sup>2</sup>ahmadsufian@jtm.gov.my, <sup>3</sup> mohdsabri@jtm.gov.my, khairil.amirul@jtm.gov.my, <sup>5</sup> ibrahim.omar@jtm.gov.my

**39 Project Name:**

**E-Healthy Monitoring**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution** Kolej Kemahiran Tinggi Mara Petaling Jaya, Selangor

**Presenters:**

Norazuin Binti Md Ayob <sup>1</sup> Balqis Binti Wira <sup>2</sup>, Alia Zafirah Binti Azhar <sup>3</sup> Mohamad Akmal Hakim Bin Abdullah Suhaimi <sup>4</sup> Khairul Muslim Bin Nordin

<sup>1</sup>norazuin.ayob@mara.gov.my, <sup>2</sup> qiswira@gmail.com, <sup>3</sup> aliazafirah98@gmail.com, <sup>4</sup>khairil.amirul@jtm.gov.my, <sup>5</sup> kmuslim.nordin@mara.gov.my

**40 Project Name:**

**Auto Gas Detector with Siemens Logo**

**Field:** Oil and Gas (IO)

**Institution** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Shaharuddin Bin Nordin<sup>1</sup> Muhammad Haziq Bin Hamzah<sup>2</sup>, Mohamad Nor Syafiq Bin Johari<sup>3</sup>  
Muhammad Adib Safwan Bin Mohamed Burhanuddin<sup>4</sup>

shaharuddin.nordin@mara.gov.my,<sup>2</sup> evolutionhaziq@yahoo.com,<sup>3</sup> syafiqjohari5317@gmail.com  
,<sup>4</sup>adibbola75@gmail.com

**41 Project Name:**

**MORBLOV - Multipurpose Organic Recycling Blower And Vacuum Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM) & Equipment,  
Aotumotives  
(IM)

**Institution** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Abdul Sapawi Bin Abdullah<sup>1</sup> Mohamad Syazwan Bin Mohamed Khairi<sup>2</sup>, Muhammad Ahnaf Bin Bahari<sup>3</sup> Mohamad Fadlizam Bin Ahmad Zamzami<sup>4</sup>

<sup>1</sup>sapawi.abdullah@mara.gov.my,<sup>2</sup> abdulsapawi@gmail.com,<sup>3</sup> syafiqjohari5317@gmail.com

**42 Project Name:**

**Smart gas detector**

**Field:** Oil and Gas (IO)

**Institution** Kolej Kemahiran Tinggi Mara Kemaman, Terengganu

**Presenters:**

Shaharuddin Bin Nordin<sup>1</sup> Amer Hakimi Bin Mohd Adnan<sup>2</sup>, Muhammad Najmuddin Bin Nazir<sup>3</sup>  
Muhammad Faris Bin Yusup<sup>4</sup> Siraj Munir Bin Muhamad<sup>5</sup>

<sup>1</sup>shaharuddin8282@gmail.com <sup>2</sup> Amer.hakimi88@gmail.com <sup>3</sup> 19naja95@gmail.com,  
farisj234@gmail.com, <sup>4</sup> Munirmuhamad77.pm@gmail.com

**43 Project Name:**

**Cocofiber Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Shaharuddin Bin Nordin <sup>1</sup>, Siraj Munir Bin Muhamad <sup>2</sup>, Muhammad Faris Bin Yusup <sup>3</sup> Muhammad Najmuddin Bin Nazir <sup>4</sup>, Amer Hakimi Bin Mohd Adnan

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<sup>4</sup>19naja95@gmail.com, <sup>5</sup>Amer.hakimi88@gmail.com

**44 Project Name:**

**Fish Feeder Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Maziah Binti Md Ludin <sup>1</sup> Muhammad Izzuddin Bin Mohd Jamil <sup>2</sup> Ayuni Nadirah Binti Mohd Affandi<sup>3</sup> Muhammad Najib Hakim Bin Donniya <sup>4</sup>, Muhammad Izzuddin Bin Yusoff<sup>5</sup>

<sup>1</sup>maziah@mara.gov.my, <sup>2</sup>mizzuddin6145@gmail.com, <sup>3</sup>ayuninadirahfnd@gmail.com, <sup>4</sup>  
najibhakim2712@gmail.com, <sup>5</sup> izzuddinyusoff23@gmail.com

**45 Project Name:**

**Auto Sorting Recycle Bin**

**Field:** Energy, Enviromental (IEE)

**Institution:** Kolej Kemahiran Tinggi Mara Kemaman, Terengganu

**Presenters:**

Norfaezah Binti Hanapiah<sup>1</sup>, Muhammad Faris Aiman Bin Abd Rahman <sup>2</sup>, Ahmad Syahmi Zamir Bin Ahmad Zaki <sup>3</sup>, Muhammad Aiman Daniel B. Norizan <sup>4</sup>, Aizat Fakhri Bin Ahamd Yani <sup>5</sup>

<sup>1</sup> nfaezah@mara.gov.my, <sup>2</sup>28farisaiman@gmail.com, <sup>3</sup> citat97@gmail.com



<sup>4</sup> aiman.daniel.5268@gmail.com, <sup>5</sup> afay.aizat.fakhri@gmail.com

**46 Project Name:**

**Smart Laboratory Notification System (SLANS)**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Ledang, Johor

**Presenters:**

Nik Firdaus Bin Nik Mahmod <sup>1</sup>, Amimah Binti Mohammad Ayub <sup>2</sup>, Muhammad Muhyiddin Bin Izzayanah Binti Yahya <sup>3</sup>, Nur Azlin Binti Ramli <sup>4</sup>

<sup>1</sup> nfirdaus@mara.gov.my, <sup>2</sup> amimah.ayub@mara.gov.my, <sup>3</sup> izayanayahya@gmail.com,

<sup>4</sup> nurazlin29@gmail.com

**47 Project Name:**

**Smart Industrial Bending Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Kemahiran MARA Sik, Kedah

**Presenters:**

Mohd Nazry Bin Mohd Yunos <sup>1</sup>, Shalyzam Bin Mohmad Shukri <sup>2</sup>, Muhamad Syahmi Haiman Bin Muhamad Hamdan <sup>3</sup> Wan Mohamad Hakimi Bin Wan Mohd Kasim <sup>4</sup>, Khazaimi Bin Khalid @ Halim <sup>5</sup>

<sup>1</sup> cikgusalman@gmail.com

**48 Project Name:**

**Home Voice Recognition Model Training Kit (HAVOC)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran MARA Sik, Kedah

**Presenters:**

Khazaimi Binhalim @ Khalid <sup>1</sup>, Ir Ahmad Faiz Bin Abd Manap <sup>2</sup>, Mohd Salman Bin Ghazli @ Ghazali <sup>3</sup> Haikal Bin Che Supian <sup>4</sup>, Nur Zikry Bin Noor Azam <sup>5</sup>

<sup>1</sup> cikgusalman@gmail.com

**49 Project Name:**

**Home Automation System Using IOT**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Ledang, Johor

**Presenters:**

Norkamal Affandi B Shahudin <sup>1</sup>, Muhammad Adib Bin Sahri <sup>2</sup>, Muhammad Nor Hafizam Bin Saidon <sup>3</sup>

<sup>1</sup> norkamal@mara.gov.my, <sup>2</sup> nomercy840@gmail.com, <sup>3</sup> muhammadnorhafizam011@gmail.com

**50 Project Name:**

**IOT Temperature & Air Monitoring**

**Field:** Energy, Environmental (IEE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Nor Azrinna Bt Muhamad <sup>1</sup>, Mohd Amin Sharifuddin Bin Mohd Usop <sup>2</sup>, Muhammad Nor Hafizam Bin Saidon <sup>3</sup>

<sup>1</sup> azrinna.muhamad@mara.gov.my, <sup>2</sup> aminsharifuddin98@gmail.com

**51 Project Name:**

**Electric with Remote Control Wheelbarrow**

**Field:** Primary & Secondary School (IP)

**Institution:** Kolej Vokasional Likas, Sabah

**Presenters:**

Rosman Bin Pileh <sup>1</sup>, Aminuddin Bin Ukrin <sup>2</sup>, Mohd Aiman Bin Sabar <sup>3</sup>, Mohamad Shane Qamal Amlis <sup>4</sup>, Muhd Iqmal Hakim <sup>5</sup>

<sup>1</sup> Rosmanpileh1985@gmail.com, <sup>2</sup> mr.ami.ma95@gmail.com, <sup>3</sup> aimanmohd115@gmail.com, <sup>4</sup> emaipankers011@gmail.com

**52 Project Name:**

**Instant Moringa Cupcake**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Kemahiran Tinggi MARA Lenggong, Perak

**Presenters:**

Mohd Fouzzi Bin Mohd Jabar<sup>1</sup>, Nurul Iman Sofia Bt Mohd Nor<sup>2</sup>, Nor Faezatul Akma Bt Sakrawi<sup>3</sup>, Siti Zulaikha Bt Mohamad Najmi<sup>4</sup>, Lokman Hakim Bin Mohd Azam<sup>5</sup>

<sup>1</sup> fouzzi@mara.gov.my, <sup>2</sup> sofia3711.dfe@lenggong.kktm.edu.my

<sup>3</sup> faezatul3973.dfe@lenggong.kktm.edu.my, <sup>4</sup> zulaikha3863.dfe@lenggong.kktm.edu.my,

<sup>5</sup> hakim3708.dfe@lenggong.kktm.edu.my

**53 Project Name:**

**Ecosegar-Enviro Pot & Machine**

**Field:** Primary & Secondary School (IP)

**Institution:** MRSM Kuala Kubu Bharu, Hulu Selangor, Selangor

**Presenters:**

Dr Santharasekaran A/L Subramaniam<sup>1</sup>, Karthikgesan A/L Santharasekaran<sup>2</sup>

<sup>1</sup> ssantharasekaran@yahoo.com, <sup>2</sup> ssantharasekaran@yahoo.com

**54 Project Name:**

**Speak Up! an Oratory Board Games**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Profesional MARA Beranang, Selangor

**Presenters:**

Masuri Binti Masood<sup>1</sup>, Norzaidatulnadiyah Azman<sup>2</sup>, Azwani Binti Ismail<sup>3</sup>

<sup>1</sup> masuri@mara.gov.my, <sup>2</sup> norzaidatulnadiyah@mara.gov.my, <sup>3</sup> azwani@mara.gov.my

**55 Project Name:**

**E-Learning Solution: Introduction of JITJOT Web App as a Writing Accelerator for Millennial Learners**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Sunway University, Petaling Jaya, Selangor

**Presenters:**

Siti Zuraini Yassin <sup>1</sup>

<sup>1</sup> sitizurainiy@sunway.edu.my

**56 Project Name:**

**Generator Fuel Saver and Green Energy Power**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran MARA Besut, Terengganu

**Presenters:**

Zubairi Bin Mat Zin <sup>1</sup>, Mohamad Hafizudin Bin Mat Lazim <sup>2</sup>, Syed Afif Hafizan Bin Sayed Omran <sup>3</sup>, Alif Tarmizi Bin Ali <sup>4</sup>

<sup>1</sup> zubairi@mara.gov.my

**57 Project Name:**

**A Device to Separate a Mesocarp From a Nut of a Drupe (ROTADISC)**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Universiti Putra Malaysia, Serdang, Selangor

**Presenters:**

Mohd Hafizz Bin Wondi <sup>1</sup>, Rosnah Binti Shamsudin <sup>2</sup>

<sup>1</sup> hafizzwondi@gmail.com, <sup>2</sup> rosnahs@gmail.com

**58 Project Name:**

**Ekon.my**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur

**Presenters:**

Muhammad Syukran Jamil <sup>1</sup>, Noor Asmida Mohd Saleh <sup>2</sup>, Nazahiah Razali <sup>3</sup>, Azarina Jalaludin <sup>4</sup>

<sup>1</sup> syukran.jamil@mara.gov.my, <sup>2</sup> asmida.saleh@mara.gov.my, <sup>3</sup> nazahiah.razali@mara.gov.my,

<sup>4</sup> azarina.jalaludin@mara.gov.my

**59 Project Name:**

**Ecosegar-Enviro Cycle Charger**

**Field:** Primary & Secondary School (IP)

**Institution:** SK Bandar Behrang, Tanjong Malim, Perak

**Presenters:**

Dr Santharasekaran A/L Subramaniam <sup>1</sup>, Shameer Pandurar <sup>2</sup>, Shazlan Pandurar <sup>3</sup>,  
Shahher Pandurar <sup>4</sup>, Nor Shameera A/P Shanmuganathan

<sup>1</sup> ssantharasekaran@yahoo.com

**60 Project Name:**

**Ecosegar- Enviro Straw**

**Field:** Primary & Secondary School (IP)

**Institution:** SK Bandar Behrang, Tanjong Malim, Perak

**Presenters:**

Dr Santharasekaran A/L Subramaniam <sup>1</sup>, Muhammad Aiman Bin Azeze <sup>2</sup>

<sup>1</sup> ssantharasekaran@yahoo.com

**61 Project Name:**

**PALMTAB-i (Oil Palm Empty Fruit Bunch Tablet Corrosion Inhibitor)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Teknologi Maju, Universiti Putra Malaysia, Serdang, Selangor

**Presenters:**

Dr. Shafreeza Sobri <sup>1</sup>, Nur Izzah Nabilah Haris <sup>2</sup>

<sup>1</sup> shafreeza@upm.edu.my, <sup>2</sup> nurizzahnabilah.haris@gmail.com <sup>2</sup>

**62 Project Name:**

**Safety Socket**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Balik Pulau, Pulau Pinang

**Presenters:**

Mohd Yusri bin Mohd Yunus <sup>1</sup>, Muhammad Nazreen Fitri bin Razak <sup>2</sup>, Muhammad Zul Hafiz bin Muhamad Idrus <sup>3</sup>, Mohd Fahri bin Abd Ghafar <sup>4</sup>, Mohd Hasruzairin bin Mohd Hashim <sup>5</sup>

<sup>1</sup> yusri.yunus@mara.gov.my, <sup>2</sup> nazreenfr@gmail.com, <sup>3</sup> zulhafiz2603@gmail.com

**63 Project Name:**

**Sewerage Cleaning Stick Set**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Mohd Safa Bahrin Bin Buang<sup>1</sup>, Zairul Anuar Bin Zamri<sup>2</sup>, Mohd Akhir Bin Abdul Wahid<sup>2</sup>, Syalila Bt Mohd Arshad<sup>2</sup>

<sup>1</sup>bahrin.buang@mara.gov.my, <sup>2</sup>zairul@ikmlumut.edu.my, <sup>3</sup>mohdakhir@ikmlumut.edu.my, <sup>4</sup>syalila@ikmlumut.edu.my

**64 Project Name:**

**PLC EDU KiT**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Kemahiran Tinggi MARA Kuantan, Pahang

**Presenters:**

Ts. Shazwan Bin Shahabadin<sup>1</sup>, Nur Atielya Sabrina Binti Ahmad Yushree<sup>2</sup>, Nur Fatihah Binti Hamizan<sup>3</sup>

<sup>1</sup>shazwan.shahabadin@kuantan.kktm.edu.my, <sup>2</sup>nuratielya14@gmail.com, <sup>3</sup>tyhanur1a@gmail.com

**65 Project Name:**

**PLC Programming Using Factory I/O**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Politeknik Muadzam Shah, Pahang

**Presenters:**

Mohd Norulhisham Bin Abd Rashid<sup>1</sup>, Nurull Zuraida Binti Shafie<sup>2</sup>

<sup>1</sup>mohdnorulhisham@gmail.com, <sup>2</sup>nurullzuraida80@gmail.com

**66 Project Name:**

**Mini Eggs Cleaner Machine**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Kolej Kemahiran Tinggi MARA Balik Pulau, Pulau Pinang

**Presenters:**

Ismail Fitri Bin Ibrahim<sup>1</sup>, Muhammad Faliq Bin Mohd Fauzle<sup>2</sup>, Muhammad Haziq Bin Ridzwan<sup>3</sup>, Muhammad Shahmi Bin Baharuddin<sup>4</sup>, Mohammad Izazi Bin Ibrahim<sup>5</sup>

<sup>1</sup>ismailfitri.ibrahim@mara.gov.my, <sup>2</sup>ismailfitri.ibrahim@mara.gov.my, <sup>3</sup>izazi@mara.gov.my

**67 Project Name:**

**Instrumentation Loop Tester (i-TESTER)**

**Field:** Oil and Gas (IO)

**Institution:** Pusat Latihan Teknologi Tinggi (ADTEC) Kemaman, Terengganu

**Presenters:**

Nasiruddin Bin Sadan<sup>1</sup>, Muhammad Khalish Bin Abdul Naser<sup>2</sup>, Syed Hafiz Zakwan B Sayed Iderus<sup>3</sup>, Mardiana Binti Nordin<sup>4</sup>

<sup>1</sup>nasiruddin@jtm.gov.my, <sup>2</sup>nasiruddin@jtm.gov.my

**68 Project Name:**

**Room Sensation Apps (ROSA) as a Vip Treatment for Hotel Industry in Malaysia**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran Belia Negara (IKBN) Kemasik, Kemaman, Terengganu

**Presenters:**

Badrul Hafidz Bin Abdul Rahim<sup>1</sup>, Siti Sakinah Binti Mohd Jawah<sup>2</sup>, Siti Nur Haminah Binti Mohd Jawah<sup>3</sup>, Heryanti Binti Samuri<sup>4</sup>, Shamsuddin Bin Amin<sup>5</sup>

<sup>1</sup>hafidzbadrul@gmail.com, <sup>2</sup>sitisakinah0421@gmail.com, <sup>3</sup>snurhaminah0706@gmail.com, <sup>4</sup>heryanti0312@gmail.com, <sup>5</sup>aku6161@gmail.com

**69 Project Name:**

**Kaze Charger**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Dr. Mohd Masri Bin Abd Rashid<sup>1</sup>, Shafiq Bin Zamri<sup>2</sup>, Imran Hakeem Bin Ahmad Syukri<sup>3</sup>, Muhammad Akid Bin Mohd Rushdi<sup>4</sup>

<sup>1</sup>masri.rashid@mara.gov.my, <sup>2</sup>sapiqz@gmail.com, <sup>3</sup>imraenalarcon@gmail.com, <sup>4</sup>akiddidi@gmail.com



**70 Project Name:**

**MYKAD Base Security Door Lock System with Web Browsing Notification**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Dr. Mohd Masri Bin Abd Rashid<sup>1</sup>, Shafiq bin Zamri, Imran Hakeem bin Ahmad Syukri<sup>2</sup>, Muhammad Akid bin Mohd Rushdi<sup>3</sup>

<sup>1</sup> masri.rashid@mara.gov.my, <sup>2</sup>sapiqz@gmail.com, <sup>3</sup>imraenalarcon@gmail.com,  
<sup>4</sup>akiddidi@gmail.com

**71 Project Name:**

**Fire Alert System for Industrial Machine (F.A.S.I.M)**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Ubaidullah Bin Aziz<sup>1</sup>, Anis Binti Mohd Zaki<sup>2</sup>, Mohamad Yunus Bin Abd Ghani<sup>3</sup>, Mohamad Amirul Syukri Bin Mohamad Hassan<sup>4</sup>, Izzah Suhair Binti Saaban<sup>5</sup>

<sup>1</sup> ubaidillah.aziz@mara.gov.my, <sup>2</sup>azahirah4@gmail.com, <sup>3</sup>supezzaliencie@gmail.com,  
<sup>4</sup>just47une@gmail.com, <sup>5</sup>marthyizzah2000@gmail.com

**72 Project Name:**

**IOT (Internet of Things) Smart Home Disaster Sensor Using Arduino**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Dr. Masri Bin Abd Rashid<sup>1</sup>, Badrul Amin Bin Azahari<sup>2</sup>, Amirah Afiqah Bt Lokman<sup>3</sup>, Muhammad Tahfiz Bin Tono<sup>4</sup>, Muhammad Zhafri Mahier Bin Masli<sup>5</sup>

<sup>1</sup> masri.rashid@mara.gov.my, badamin281@gmail.com<sup>2</sup>, aamirahafiqah@gmail.com<sup>3</sup>, jobarians@gmail.com<sup>4</sup>, mahiermasli@gmail.com<sup>5</sup>

**73 Project Name:**

**Portable Mizu Generator**

**Field:** Energy, Enviromental (IEE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

DR. Mohd Masri Bin Abd Rashid<sup>1</sup>, Nik Mohammad Muzammil Bin Zainuddin<sup>2</sup>, Nuraqilah Binti Jasni<sup>3</sup>

<sup>1</sup>masri.rashid@mara.gov.my, <sup>2</sup>muzammilzainuddin@gmail.com, <sup>3</sup>nrqlhjsni@gmail.com

**74 Project Name:**

**TAP Guide**

**Field:** Building Construction & Architecture (IB)

**Institution:** Kolej Kemahiran Tinggi MARA Kuantan, Pahang

**Presenters:**

Ali Emran Bin Adnan<sup>1</sup>, Abdul Hadi Bin Mohd Zamzuri<sup>2</sup>, Muhammad Aiman Bin Mohd Shafie<sup>3</sup>, Muhammad Hadi Bin Sulaiman<sup>4</sup>, Muhammad Amirul Bin Abdullah<sup>5</sup>

<sup>1</sup>emran.adnan@mara.gov.my, <sup>2</sup>abdulhadizam@gmail.com, <sup>3</sup>aimanshafie8366@gmail.com, <sup>4</sup>mhshadigreat@gmail.com, <sup>5</sup>amiruljawa98@gmail.com

**75 Project Name:**

**EZY Bind**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Kolej Kemahiran Tinggi MARA Kuantan, Pahang

**Presenters:**

Ts. Mohd Firdaus Bin Mohd Noh<sup>1</sup>, Ts. Muhammad Shakir Bin Mat Nawi<sup>2</sup>, Afifah Syaza Binti Hasran<sup>3</sup>, Siti Nurfatihatul Syuhada Binti Mohd Faizal<sup>4</sup>, Ts. Saiful Bahari Hamzah<sup>5</sup>

<sup>1</sup>firdaus.noh@kuantan.kktm.edu.my, <sup>2</sup>shakir.nawi@kuantan.kktm.edu.my,  
<sup>3</sup>saiful.hamzah@kuantan.kktm.edu.my

**76 Project Name:**

**Pipeline Hydrostatic Pressure Testing Integrated (PHyPTI) Training Kit**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran Belia Negara Pekan, Pahang

**Presenters:**

Ts. Mohd Firdaus Bin Mohd Noh<sup>1</sup>, Nor Suhadah Binti Razali<sup>2</sup>, Nur Sahira Binti Aslan<sup>3</sup>, Nurul Asyiqin Binti Bakri<sup>4</sup>, Fashahah Amani Binti Abdul Halim<sup>5</sup>

<sup>1</sup>firdaus.noh@kuantan.kktm.edu.my, <sup>2</sup>mfirdausmn84@gmail.com, <sup>3</sup>mfirdausmn84@gmail.com

**77 Project Name:**

**Innovate Lesson Plan**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Profesional MARA Indera Mahkota, Kuantan, Pahang

**Presenters:**

Mohd Zulaffandi Bin Abdullah<sup>1</sup>, Amirul Haakim Bin Mohd Zulfaka<sup>2</sup>, Mohamad Hatim Junaidy Bin Mohamad Shukri<sup>3</sup>, Muhd Haziq Bin Morsidin<sup>4</sup>, Rosdi Bin Hussin<sup>5</sup>

<sup>1</sup>zulaff2008@gmail.com, <sup>2</sup>panglimahulagu1977@gmail.com, <sup>3</sup>pamkelulut2017@gmail.com, <sup>4</sup>panglimahitam1977@gmail.com, <sup>5</sup>miraikbnpekan@gmail.com

**78 Project Name:**

**Blind Control by Using Voice Through Android Application**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Nur Nubailah Binti Md Zahir<sup>1</sup>, Azham Bin Abdul Hamid<sup>2</sup>, Zariati Binti Radzali<sup>3</sup>, Amzari Jihadi B. Ghazali<sup>4</sup>, Mohd Salman B. Mokhtar<sup>5</sup>

<sup>1</sup>nubailah.zahir@mara.gov.my, <sup>2</sup>azham.hamid@mara.gov.my, <sup>3</sup>zariati@mara.gov.my, <sup>4</sup>amzari.ghazali@mara.gov.my, <sup>5</sup>salman.mokhtar@mara.gov.my

**79 Project Name:**

**Tennis Ball Tracking and Acquiring Using Vision Systems**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Azeera Binti Aziz <sup>1</sup>, Fatin Nur Afiqah Binti Hanafi <sup>2</sup>, Mohammad Fithri Shah Bin Shairani <sup>3</sup>

<sup>1</sup> azeera.aziz@mara.gov.my, <sup>2</sup> ftnurafiqah99@gmail.com, <sup>3</sup> FithriShah99@gmail.com

**80 Project Name:**

**Key Management System**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Ezad Razif Bin Ahmat Rozali <sup>1</sup>, Muhammad Syafiq Zairen Bin Mohd Sueib <sup>2</sup>, Mohamad Fithri Bin Ali <sup>3</sup>

<sup>1</sup> razif.rozali@mara.gov.my, <sup>2</sup> muhammadsyafiqzairen@gmail.com, <sup>3</sup> fisyah24@gmail.com

**81 Project Name:**

**Wireless Archery Timer**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Mohammad Shauqi Bin Azman <sup>1</sup>, Muhammad Irsyad Bin Johari <sup>2</sup>

<sup>1</sup> shauqi.12@smkpp16.edu.my, <sup>2</sup> irsyadjoharii99@gmail.com

**82 Project Name:**

**Secret Knock Door Detecting Door Lock**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Noor Nadiyah Binti Mohd Azali <sup>1</sup>, Nurul Fasiah Binti Muhammad Norizan <sup>2</sup>, Nur Thaqifah Binti Zulkifli <sup>3</sup>, Yuraimy Yakimin Bin Abdul Talib <sup>4</sup>, Azlin Binti Ramli <sup>5</sup>

<sup>1</sup>nadiyah.azali@mara.gov.my, <sup>2</sup>mnre.nurfas@gmail.com, <sup>3</sup>thaqizan@gmail.com, <sup>4</sup>yuraimy@mara.gov.my, <sup>5</sup>azlin.ramli@mara.gov.my

**83 Project Name:**

**Kelulut Hive Security Monitoring System (KHSMS)**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran Belia Negara Pekan, Pahang

**Presenters:**

Ezad Razif Bin Rozali <sup>1</sup>, Abdul Rauf Bin Zulkifli <sup>2</sup>, Ahmad Syauqi Bin Nurohadi <sup>3</sup>

<sup>1</sup>razif.rozali@mara.gov.my, <sup>2</sup>abrauf999@gmail.com, <sup>3</sup>syauqi.rooney@gmail.com

**84 Project Name:**

**Portable Self Service Library Books Return System Using IOT**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** MARA Japan Industrial Institute, Beranang, Selangor

**Presenters:**

Norhamimi binti hamdan<sup>1</sup>, Muhammad Zaidi Bin Zakariah<sup>2</sup>, Muhammad Zairul Amir Bin Muhammad Zulman<sup>3</sup>

<sup>1</sup>hamimi.hamdan@mara.gov.my, <sup>2</sup>muhammadzaidia.d@gmail.com, <sup>3</sup>zairul.ami123@gmail.com

**86 Project Name:**

**Snatch Theft Buster**

**Field:** Primary and Secondary School (IP)

**Institution:** SK Sultan Sulaiman 1, Kuala Terengganu, Terengganu

**Presenters:**

Nurul Nadhrah Bt Sulaiman<sup>1</sup>, Raihah Nur Alisya bt Rosli<sup>2</sup>,

<sup>1</sup>ndhr\_05@yahoo.com, <sup>2</sup>rabaahwahid@gmail.com,

**87 Project Name:**

**PLINK**

**Field:** Primary and Secondary School (IP)

**Institution:** Maktab Rendah Sains MARA Tun Ghafar Baba, Jasin, Melaka

**Presenters:**

Amimah Binti Mohammad Ayub<sup>1</sup>, Amir Harith Bin Azri<sup>2</sup>, Muhammad Alif Ilman Bin Mohd Nazri<sup>3</sup>

<sup>1</sup>amimah.ayub@mara.gov.my, <sup>2</sup>amimah.ayub@mara.gov.my, <sup>3</sup>amimah.ayub@gmail.com

**88 Project Name:**

**SMART Sawah**

**Field:** Primary and Secondary School (IP)

**Institution:** Maktab Rendah Sains MARA Tun Ghafar Baba, Jasin, Melaka

**Presenters:**

Amimah Binti Mohammad Ayub<sup>1</sup>, Siti Maysarah Binti Ahmat<sup>2</sup>, Muhammad Syawal Azmi Bin Azhar<sup>3</sup>, Muhammad Afif Nazrin Bin Rahmat<sup>4</sup>

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**89 Project Name:**

**Lib' Aide**

**Field:** Primary and Secondary School (IP)

**Institution:** SK Sultan Sulaiman 1, Kuala Terengganu, Terengganu

**Presenters:**

Wan Mohd Nazim B. Wan Omar <sup>1</sup>, Wan Fariz Putera B. Wan Hashim <sup>2</sup>

<sup>1</sup>wmnazim@gmail.com, <sup>2</sup>nadhrahsulaiman@gmail.com

**90 Project Name:**

**Mini Power Bank**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur

**Presenters:**

Mohd Shahrul Najib Bin Mohd Arshad<sup>1</sup>, Muhammad Nor Azri Bin Mohamad Rodzi<sup>2</sup>, Mohd Syafiq Bin Bakri<sup>3</sup>

<sup>1</sup>shahrulnajib@mara.gov.my, <sup>2</sup>muhammadnorazri6@gmail.com, <sup>3</sup>m.syafiqbakri95@gmail.com

**91 Project Name:**

**E-Voting Election**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Kemahiran MARA Beseri, Perlis

**Presenters:**

Mohd. Khaidir Bin<sup>1</sup>, Che Supian Bin Che Man<sup>2</sup>, Normala Binti Mohamad<sup>3</sup>

<sup>1</sup>khaidir@mara.gov.my, <sup>2</sup>chesupian@mara.gov.my, <sup>3</sup>normala.mohamad@mara.gov.my

**92 Project Name:**

**Art and Design Learning Kit**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** MRSM Johor Bahru, Johor

**Presenters:**

Axfar Hanis bt Hashim<sup>1</sup>, Muhammad Azmil bin Abdul Aziz<sup>2</sup>

<sup>1</sup>hanis.hashim@mara.gov.my, <sup>2</sup>axfarhanis9@gmail.com

**93 Project Name:**

**SMART Iron Board**

**Field:** Building Construction & Architecture (IB)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Zaili Bin Ramli<sup>1</sup>, Muhammad Syazreen Alif Bin Mohd Syahrem<sup>2</sup>

<sup>1</sup>zaili.ramli@mara.gov.my, <sup>2</sup>syazreenshootz24@gmail.com

**9**

**4 Project Name:**

**SMART Learning Machinery**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Hj Ahmad Rumzi Bin Musa<sup>1</sup>, Nurdanish Awzai Bin Noor Hafizi<sup>2</sup>, Mohamad Najmi Bin Abdul Ghani<sup>3</sup>

<sup>1</sup>rumzi.musa@mara.gov.my, <sup>2</sup>dnshawz@gmail.com, <sup>3</sup>mohdnajmi808@gmail.com



**95 Project Name:**

**Banana Peeler**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Universiti Putra Malaysia, Serdang, Selangor

**Presenters:**

Farahana Nabilah Bt Zainal Abidin<sup>1</sup>, Rosnah Shamsudin<sup>2</sup>

<sup>1</sup>fara\_bila02@yahoo.com, <sup>2</sup>rosnahs@upm.edu.my

**96 Project Name:**

**Reusable Aircond Water Discharge for Enviromental Usage**

**Field:** Energy, Enviromental (IEE)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Nor 'Izwan Bin Aziz<sup>1</sup>, Mohamad Hishammuddin Bin Mat Alwi<sup>2</sup>, Muhammad Faiz Bin Mohd Shafri<sup>3</sup>, Daniel Solihi Bin Zaidi<sup>4</sup>, Muhammad Noraidil Bin Mohd.Saufi<sup>5</sup>

<sup>1</sup>izwan.aziz@mara.gov.my, <sup>2</sup>hishammuddin1996@gmail.com, <sup>3</sup>faizmuhd0501@gmail.com, <sup>4</sup>dszacksz1305@gmail.com, <sup>5</sup>noraidil233@gmail.com

**97 Project Name:**

**Smart Flush Football Field System**

**Field:** Building Construction & Architecture (IB)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Mohd.Akhir Bin Abdul Wahid<sup>1</sup>, Aiman Amirun Bin Mohammad Rodzy<sup>2</sup>, Muhammad Anas Bin Che Mohd.Rozi<sup>3</sup>, Muhammad Syahmi Bin Hasbullah<sup>4</sup>, Muhammad Izzueddin Bin Mohamad Husaini<sup>5</sup>

<sup>1</sup>akhir@mara.gov.my, <sup>2</sup>Amirunhai200@gmail.com, <sup>3</sup>muhammadanas6758@gmail.com, <sup>4</sup>along.msyahmi@gmail.com, <sup>5</sup>izzuehusaini321@gmail.com

**98 Project Name:**

**Field:** Building Construction & Architecture (IB)

**Institution:** Institut Kemahiran MARA Lumut, Perak

**Presenters:**

Mohd. Taufiek Bin Sabri<sup>1</sup>, Mohamad Azuan Bin Jumri<sup>2</sup>, Mohamad Hishammuddin Bin Mat Alwi<sup>3</sup>, Muhammad Syahmi Bin Hasbullah<sup>4</sup>, Muhammad Noraidil Bin Mohd.Saufi<sup>5</sup>

<sup>1</sup>taufiek@mara.gov.my, <sup>2</sup>azuan.jumri@mara.gov.my, <sup>3</sup>hishammuddin1996@gmail.com, <sup>4</sup>along.msyahmi@gmail.com, <sup>5</sup>noraidil233@gmail.com

**99 Project Name:**

**Spirit Congkak**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Institut Kemahiran MARA Kuala Lumpur, Kuala Lumpur

**Presenters:**

Mohd Kamal Ariffin Bin Kamarul Bahrin<sup>1</sup>, Ahmad Zafri Bin Shafi'i<sup>2</sup>, Muhammad Nor Rabi'ah Bin Abd Hamid<sup>3</sup>, Raja Abdul Syukur Bin Raja Soib<sup>4</sup>, Najian Binti Mohd Nor<sup>5</sup>

<sup>1</sup>kamalariffin@mara.gov.my, <sup>2</sup>zafri.shafii@mara.gov.my, <sup>3</sup>abyikip72@gmail.com, <sup>4</sup>raja.sykr@gmail.com, <sup>5</sup>najianmohdnor169@gmail.com

**100 Project Name:**

**The Investigation of Heat Resistance Particle Board Made From Waste Material By Using Optimization Formula**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Abdul Khalid Bin Othman <sup>1</sup>, Siti Khairunnur Binti Laderlah <sup>2</sup>

<sup>1</sup>khalid.othman@mara.gov.my, <sup>2</sup>ctkhairunnur96@gmail.com

**101 Project Name:**

**Unique Projector Mounting V2**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Institut Latihan Perindustrian Ayer Keroh, Melaka

**Presenters:**

Mohd faizal bin Abdul Majid <sup>1</sup>, Mohd Earwin Bin Mohd Khalid <sup>2</sup>, Muhammad zulhilmi bin Md Arpan <sup>3</sup>, Muhammad Amirul Bin Mat Thawi <sup>4</sup>, Muhammad Rhidaham Darwis Bin Roslan <sup>5</sup>

<sup>1</sup> faizal.majid@jtm.gov.my, <sup>2</sup> m.earwin@jtm.gov.my, <sup>3</sup> faizal.majid@jtm.gov.my, <sup>4</sup> faizal.majid@jtm.gov.my, <sup>5</sup> faizal.majid@jtm.gov.my

**102 Project Name:**

**Mud Ball Mould Mechanical**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Latihan Perindustrian Ayer Keroh, Melaka

**Presenters:**

Azmi Bin Mohamad <sup>1</sup>, Raszali Bin Bakar <sup>2</sup>, Nor Risam Bin Dahalan <sup>3</sup>, Muhammad Azwan Bin Md Noor <sup>4</sup>, Muhammad Fhakrul Bin Taharudin <sup>5</sup>,

<sup>1</sup> azmi\_m@jtm.gov.my, <sup>2</sup> raszali@jtm.gov.my, <sup>3</sup> norisam.d@jtm.gov.my, <sup>4</sup> norisam.d@jtm.gov.my, <sup>5</sup> raszali@jtm.gov.my

**103 Project Name:**

**Stair Climbing Trolley 4.0**

**Field:** Energy, Enviromental (IEE)

**Institution:** Institut Latihan Perindustrian Ayer Keroh, Melaka

**Presenters:**

Azizi Bin Majid <sup>1</sup>, Azmi Bin Mohamad <sup>2</sup>, Mohd Sharmizi Bin Abu Bakar <sup>3</sup>, Muhammad Rusyaidi Bin Mustaffa Kamal <sup>4</sup>, Aqil Siddiq Bin Zulkiflie @ Zuikiflie <sup>5</sup>

<sup>1</sup> ijjeiskandar7878@gmail.com, <sup>2</sup> azmi\_m@jtm.gov.my, <sup>3</sup> sharmizi@jtm.gov.my, <sup>4</sup> rusyaidiadi00@gmail.com, <sup>5</sup> aqilsiddiq33@gmail.com

**104 Project Name:**

**SMART Clean**

**Field:** Electrical & Electronic, ICT, Multimedia (IE)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Muhamad Nor Hafiz Bin Moktarudin <sup>1</sup>, Nur Iman Bin Che Ghazali <sup>2</sup>, Nor Fazreena Elisya Binti Mohd Fauzi <sup>3</sup>

<sup>1</sup> norhafiz.moktarudin@mara.gov.my, <sup>2</sup> nurimancheghazali@gmail.com, <sup>3</sup> fazreenajeena@gmail.com

**105 Project Name:**

**Portable Flood Water Detector using Ultrasonic Method**

**Field:** Energy, Enviromental (IEE)

**Institution:** Kolej Kemahiran Tinggi MARA Kemaman, Terengganu

**Presenters:**

Ahmad Fakhruddin Bin Ahmad Faudzi <sup>1</sup>, Muhammad Haikal Bin Abdul Razak <sup>2</sup>, Mohamad Azri Firdaus Bin Azmi <sup>3</sup>, Muhammad Haiqal Hakim Bin Hairel Fizet <sup>4</sup>, Muhammad Razin Shafri Bin Shabudin <sup>5</sup>,

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**106 Project Name:**

**Smart Window System**

**Field:** Primary and Secondary School (IP)

**Institution:** SMK Mak Lagam, Kemaman, Terengganu

**Presenters:**

Tun Othman Tun Abu Bakar <sup>1</sup>, Ahmad Fakhrul Radzi Bin Ahmad Fahmi <sup>2</sup>, Noor Imam Imran Bin Noor Walid <sup>3</sup>, Muhammad Akim Bin Abdul Azib <sup>4</sup>, Muhammad Zaim Hakim Bin Mohd Nasir <sup>5</sup>

<sup>1</sup> tunard5213@gmail.com

**107 Project Name:**

**Item Navigation Trolley (INT)**

**Field:** Primary and Secondary School (IP)

**Institution:** SMK Mak Lagam, Kemaman, Terengganu

**Presenters:**

Fatimah Nornajmiah Bt Nordin <sup>1</sup>, Irfan Hamsyarie Bin Zuhaini <sup>2</sup>, Muhammad Shaqir Adli Bin Rukman <sup>3</sup>, Muhammad Lukhman Bin Mohd Ruswadi <sup>4</sup>

<sup>1</sup> tunard5213@gmail.com

**108 Project Name:**

**Sistem Pengurusan Makmal Mikrobiologi (MICROSYS)**

**Field:** Science, Material, Social Science, Teaching & Training (IS)

**Institution:** Politeknik Sultan Haji Ahmad Shah, Kuantan, Pahang

**Presenters:**

Siti Nasiroh Bt Ismail<sup>1</sup>, Munirah Bt. Ab Majid<sup>2</sup>

<sup>1</sup>nas.fsmb@gmail.com, <sup>2</sup>munirahabmajid@gmail.com

**109 Project Name:**

**250 Monoshock Remover/Installer**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Kemahiran MARA Besut, Terengganu

**Presenters:**

Shalahiah Binti Md Sood<sup>1</sup>, Muhamad Haiqal Ikram Bin Kori<sup>2</sup>, Muhammad Zakwan Bin Norzilan<sup>3</sup>

<sup>1</sup>shalahiah@mara.gov.my

**110 Project Name:**

**Crankshaft Bearing Remover/Installer**

**Field:** Manufacturing Process, Machines & Equipment, Aotumotives (IM)

**Institution:** Institut Kemahiran MARA Besut, Terengganu

**Presenters:**

Hasnah Binti Hamat<sup>1</sup>, Wan Nurulafza Binti Wan Zakaria<sup>2</sup>, Nurul Afina Binti Rosdi<sup>3</sup>

<sup>1</sup>hasnah.ht@mara.gov.my

**111 Project Name:**

**COEFIBLIZER**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor

**Presenters:**

Norsiah Binti Mohamed<sup>1</sup>, Nurul Hana Nabihah Bt Mohammad Kamal<sup>2</sup>, Nurin Jannah Bt Mohd Shahril<sup>3</sup>, Nur Alya Syamimi Binti Faizul Azli<sup>4</sup>, Nur Alyana Binti Ridzuan<sup>5</sup>

<sup>1</sup>norsiah\_wkn1173@yahoo.com, <sup>2</sup>N.JSHAHRIL@gmail.com, <sup>3</sup>nasbfa123@gmail.com

**112 Project Name:**

**Soy Waste Based Flour**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor

**Presenters:**

Norsiah Binti Mohamed<sup>1</sup>, Muhammad Hariz Bin Mohd Haisam<sup>2</sup>, Muhammad Aniq Ikhwan Bin Zolkanain<sup>3</sup>, Muhammad Thaqif Bin Norzeeshahrul<sup>4</sup>, Aidan Mikhail Faisal Bin Abdul Malik Faisal<sup>5</sup>

<sup>1</sup>norsiah\_wkn1173@yahoo.com, <sup>2</sup>farizhaisam@gmail.com, <sup>3</sup>aniqikhanc@gmail.com, <sup>4</sup>qiffshm@gmail.com

**113 Project Name:**

**Co-Co Rodenticide**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor

**Presenters:**

Norsiah Binti Mohamed<sup>1</sup>, Nurul Batrisyia Bt Sabli, Nurul Ain Bt Zulkarnain<sup>2</sup>, Fatin Nadzirah Bt Ahmad Firdaus<sup>3</sup>, Nuha Batish Bt Zuhaidi<sup>4</sup>

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**114 Project Name:**

**Geranium Candle**

**Field:** Primary and Secondary School (IP)

**Institution:** SMK Mak Lagam, Kemaman, Terengganu

**Presenters:**

Lisneza Binti Roseli<sup>1</sup>, Sara Lisa Bt Rosny<sup>2</sup>, Nurin Maisara Balqis Bt Mohd Rizal<sup>3</sup>, Nur Dayana Karmila Bt Rohimi<sup>4</sup>, Nurul Shima Bt Idris<sup>5</sup>

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**115 Project Name:**

**Eco-Nomic Ink**

**Field:** Primary and Secondary School (IP)

**Institution:** SMK Mak Lagam, Kemaman, Terengganu

**Presenters:**

Lisneza Binti Roseli<sup>1</sup>, Ros Adlin Nadhirah Bt Roslan<sup>2</sup>, Noor Hanin Bt Abdul Hamid<sup>3</sup>, Nurul Haziera Bt Mohd Haisam<sup>4</sup>, Nur Umaira Alieya Farhani Bt Mohd Asmawali<sup>5</sup>

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<sup>4</sup>nurulhazierahaisam@gmail.com, <sup>5</sup>umairalieya@gmail.com

**116 Project Name:**

**Hydro Vase**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor

**Presenters:**

Masita Binti Salamat@Samadon<sup>1</sup>, Nur Aina Sofea Bt Suhairi<sup>2</sup>, Puteri Nur Hidayah Bt Shahrul Azman<sup>3</sup>, Nur Izzah Soraya Bt Azizan<sup>4</sup>, Nur Nabihah Bt Mohd Safaruddin<sup>5</sup>

<sup>1</sup> masitasemashur@gmail.com, <sup>2</sup> ainasofea@yahoo.com, <sup>3</sup> puteri.azman@yes.com, <sup>4</sup> izzahsorayaoa@gmail.com, <sup>5</sup> bihahsafariuddin@gmail.com

**117 Project Name:**

**The Automatic Circuit Breaker (ACB)**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor

**Presenters:**

Masita Binti Salamat@Samadon<sup>1</sup>, Muhammad Isyraff Ihsan Bin Azahari<sup>2</sup>, Harith Nabil B Md Zarin<sup>3</sup>, Muhammad Adam Mirza B Adzuar<sup>4</sup>, Norman Ishaq Bin Nordin<sup>5</sup>

<sup>1</sup> masitasemashur@gmail.com, <sup>2</sup> norsiah\_wkn11732@yahoo.com, <sup>3</sup> harithnabil14@gmail.com, <sup>4</sup> adammirza531@gmail.com, <sup>5</sup> norman808ishaq@gmail.com

**118 Project Name:**

**CITRONIDE**

**Field:** Primary and Secondary School (IP)

**Institution:** Sekolah Menengah Sains Hulu Selangor, Batang Kali, Selangor



**Presenters:**

Masita Binti Salmat@Samadon <sup>1</sup>, Nur Alia Syafiqah Bt Ashraf <sup>2</sup>, Nur Adriana Najla Bt Mohd Zamri <sup>3</sup>, Nurehan Aleya Bt Zulkepli <sup>4</sup>, Alya Izzati Bt Mohd Nizam <sup>5</sup>

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# **POSTERS COMPETITION & PRESENTATION**

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**Dewan Seri Perdana**

## POSTERS COMPETITION & PRESENTATION LISTING

TEAM LEADER TEAM MEMBER	CATEGORY	INSTITUTION	TITLE	ABSTRACT
<b>PARK DO YEON SURAYA BINTI YAHAYA</b>	International	INHA UNIVERSITY, KOREA	Hybrid Constructed Wetlands for Sewage Treatment Plant	<p>As cities becoming more and more densely populated and industrialized, it is necessary to improve the sanitary and ecological conditions and at the same time introduce a system of urban green spaces for recreational reasons. Natural treatment like constructed wetland not only acts as a water treatment plant, but also can be designed to be a recreational park for the local community. It is hoped that constructed wetlands can provide a pathway for a sustainable urban in the future, especially in a developing country like Malaysia. Therefore, this project introduced hybrid constructed wetlands as a combination of horizontal flow process and vertical flow process of constructed wetlands. The objectives of this study are to make sure treated effluent from the treatment plant acceptable for reuse or for returning to the environment, according to the standard set by Environment Quality Act. Secondly, provide lower cost of installation and operating</p>

				sewage treatment system that benefit to purpose and need. Finally, promote a better surrounding living condition by minimizing harmful exposure to human beings and ecosystem.
<p><b>MOHD KHAIDIR MOHAMED SALLEH</b></p> <p>CHE SUPIAN B CHE MAN</p>	IPT	<p>INSTITUT KEMAHIRAN MARA BESERI, PERLIS</p>	<p>Korelasi pencapaian penilaian kerja kursus terhadap pencapaian peperiksaan akhir semester bagi kursus Technical Mathematics 1 (CUM10012) di Institut Kemahiran MARA Beseri, Perlis</p>	<p>Kajian ini bertujuan untuk mengenal pasti hubungan antara pencapaian Penilaian Kerja Kursus dengan pencapaian Peperiksaan Akhir Semester pelajar bagi kursus Technical Mathematics 1 (CUM10012) yang ditawarkan di Institut Kemahiran MARA Beseri Perlis pada Sesi Julai-Disember 2018. Seramai 68 pelajar daripada Jabatan Mekanikal, Jabatan Elektrik, Jabatan Automotif dan Jabatan Elektronik yang telah mengambil kursus ini pada Sesi Julai- Disember 2018 telah dipilih sebagai sampel kajian.</p> <p>Data kajian yang diperolehi dianalisis dengan menggunakan perisian Statistical Packages for Social Science 16.0 (SPSS) melalui analisis korelasi Spearman. Dapatan kajian mendapati bahawa terdapat hubungan yang signifikan antara pencapaian Penilaian Kerja Kursus dengan pencapaian Peperiksaan Akhir semester pada tahap yang rendah.</p>
<p><b>FARAH SYAHIDA BINTI ZAINUDIN</b></p> <p>NORHAYATU L AZWA BINTI SHAMSUDIN</p>	IPT	<p>INSTITUT KEMAHIRAN MARA, JASIN, MELAKA</p>	<p>Alatan Pembersih Longkang</p>	<p>Alatan ini dicipta bagi memudahkan kerja-kerja pembersihan longkang. Boleh digunakan oleh kontraktor pembersihan dan agensi-agensi serta individu. Mampu menjimatkan kos, masa &amp; tenaga.</p>
<p><b>SHAMSUL BIN MOHAD MUHAMMAD</b></p>	IPT	<p>INSTITUT KEMAHIRAN MARA SEBERANG PERAI UTARA,</p>	<p>Mobile Barber</p>	<p>Mobile barber adalah satu aplikasi dimana ia memudahkan para pelanggan untuk mendapatkan perkhidmatan</p>

MURSYIDI BIN ZAKARIA		PULAU PINANG		gunting rambut dengan gaya terkini dan juga memfokuskan untuk membantu manusia yang mengidap penyakit lumpuh untuk mendapatkan khidmat ini.
AZWIN SHANIDA BINTI ROMLI  AMIRUL ASYRAF BIN UZIL FADZIL	IPT	INSTITUT KEMAHIRAN MARA SIK, KEDAH	Solah Training Kit	<p>Dalam konteks pendidikan awal anak-anak, tanggungjawab untuk mendidik anak-anak untuk solat bukanlah sesuatu perkara yang mudah. Ia tidak semudah seperti kita mengajar ABC atau mengira 123. Tanggungjawab untuk mendidik anak-anak untuk bersolat selalunya akan menghadapi pelbagai ujian dan cabaran. Terdapat juga orang dewasa yang tidak bersolat atas alasan tidak tahu bacaan solat dan tidak tahu cara solat.</p> <p>Solah Training Kit adalah satu inovasi baru yang bertujuan untuk membantu para guru, ibu bapa dan orang ramai untuk mendidik anak-anak mereka melaksanakan solat dengan sempurna seawal usia 7 tahun. Ia juga dapat membantu orang ramai sebagai panduan cara bersolat.</p> <p>Solah Training Kit menggunakan Raspberry Pi dengan dikawal secara wireless oleh satu alat kawalan di jari pengguna. Alat kawalan tersebut dikenali sebagai Smart Ring for Solah and Al-Quran Reading (SRAS). Selain itu ia memaparkan visual cara solat secara multimedia dengan menggunakan alat yang menggunakan keluaran HDMI seperti monitor, televisyen, projector dan sebagainya.</p>

				<p>Ia juga amat praktikal untuk orang ramai yang tidak tahu cara dan bacaan solat. Solah Training Kit dapat dijadikan sebagai panduan dalam melakukan ibadah ini. Dari segi hukum, ia tidak membatalkan solat kerana ia hanya melibatkan pergerakan kecil jari sahaja.</p> <p>Solah Training Kit juga dapat dijadikan sebagai panduan imam untuk membaca surah-surah yang panjang dan tidak perlu menggunakan Al-Quran besar di hadapan atau memegang Al-Quran kecil di tangan. Iman hanya perlu menggunakan alat kawalan dijari untuk mengubah helaian Al-Quran ketika solat.</p>
<p><b>MUHAMMAD HASRULLAH BIN MD HASMI</b></p> <p>AHMAD IMRAAN BIN AZMAN</p>	IPT	<p>INSTITUT KEMAHIRAN MARA SIK, KEDAH</p>	Ice Skating Training Kit	Training kit
<p><b>SHAHARUDDIN BIN NORDIN</b></p> <p>NUR IMAN BIN CHE GHAZALI</p>	IPT	<p>KOLEJ KEMAHIRAN TINGGI MARA KEMAMAN, TERENGGANU</p>	Easy PCB Maker	Mesin yang akan memudahkan dan dapat menyediakan 'PRINTED CIRCUIT BOARD (PCB)' dengan cara yang lebih selamat dan kos yang murah.
<p><b>HANAFI BIN CHE AB HALIM</b></p> <p>NUR IMAN BIN CHE GHAZALI</p>	IPT	<p>KOLEJ KEMAHIRAN TINGGI MARA KEMAMAN, TERENGGANU</p>	Smart Flexible Hose	Idea bagi merekacipta paip baharu bagi menjaga kebersihan paip di tandas awan yang sering kali jatuh ke lantai dan mangkuk tandas.

<p><b>MOHD ROSMAINI BIN SHAARI</b></p> <p>MUHAMMAD AMIRUL AMRI B MOHD SABRI</p>	<p>IPT</p>	<p>KOLEJ KEMAHIRAN TINGGI MARA KEMAMAN, TERENGGANU</p>	<p>Effect of Tool Edge Geometry on Cutting Force and Surface Roughness when Hard Turning Tool Steel</p>	<p>High usage of hardened steel in the automotive, gear, bearing, tool and die making industries, makes it a highly suitable material for industrial production and research. This study was undertaken to investigate the performance of coated ceramic insert with different edge preparations in terms of cutting force and surface roughness. Plain turning experiments were carried out under dry cutting condition at two different cutting speeds and feed rates with a constant depth of cut. The work piece material is ASSAB DF-3 hardened steel with a <math>55 \pm 1</math> HRC hardness. Results showed that insert edge preparation had a direct influence on the radial and feed forces but not on the tangential force. The use of T-land edge preparation results in the lowest radial and feed forces. In terms of surface finish, the use of honed with finishing wiper insert results in obtaining the lowest surface roughness values. Feed rate had a significant effect on surface roughness whereby by increasing feed rate, the surface roughness value also increased, whereas the effect of cutting speed was found to be insignificant. Increasing cutting speed resulted in lower feed and tangential forces however by increasing feed rate all cutting forces increased.</p>
<p><b>NUR AMIRAH NAZWA BINTI MUGHNI</b></p> <p>NUR JANNATUL SAKINAH</p>	<p>IPT</p>	<p>KOLEJ KEMAHIRAN TINGGI MARA LENGGONG, PERAK</p>	<p>Odourless Cube Fermented Shrimp Paste with Smart Packaging</p>	<p>Selling packaging more than product is a good marketing nowadays but after all the properties of packaging is needed. Packaging known as to protect the product from being damage and spoilage from processing until</p>

<p>BINTI ABD RAHMAN</p>				<p>manufacturing through handling and storage to final consumer. Attractive packaging will catch consumer eyes in every aspect which is design, shape, colour and labelling on it. Beside, in this project will be improve the properties of packaging fermented shrimp paste to be hygiene, user friendly and attractive packaging on market.</p>
<p>NOOR AISAH BINTI MOHD YUSOFF</p> <p>NURUL HAZWANI BINTI MOHD SHIROZI</p>	<p>IPT</p>	<p>KOLEJ KEMAHIRAN TINGGI MARA LENGGONG, PERAK</p>		
<p>TS. MOHD NAZIF BIN MOHD BAHARUDDIN</p> <p>SITI NORZAILINA BINTI MD SOM</p>	<p>IPT</p>	<p>KOLEJ KEMAHIRAN TINGGI MARA PETALING JAYA, SELANGOR</p>	<p>Polyurethane as an adhesive in the making of homogeneous particleboard from the waste of the acacia tree species</p>	<p>This research was focusing on the using of polyurethane (PU) as a resin in the making of particleboard. The hot press machine was used to produce the specimens. Whereby, all the parameter involved in this research was creating by analyze the DSC and TGA tests result on PU and dust wood. The specimens were test by using the Universal Tensile Machine (UTM) for Modulus of Elasticity (MOE) and Modulus of Rupture (MOR) for mechanical properties and for physical properties testing involved in this research was Thickness Swelling (TS). At the same time, the structure of molecule and chemical content was checking by using the SEM, EDX and FTIR tests. Meanwhile, the Japanese Industrial Standards (JIS) was the main reference in this research. At the end of the research, the result shown that the particleboard with PU as a resin was exceeded the JIS. It</p>

				also shown the bio resins can replace the using of chemical or petroleum based resins in the making of particleboard.
<p><b>MOHD ESTA HUSNA ZAINAL</b></p> <p>NORAN ZAHRINE BIN ZAINAL</p>	IPT	<p>KOLEJ KEMAHIRAN TINGGI MARA PETALING JAYA, SELANGOR</p>	<p>Evaluation of Portable Device Usage &amp; Market Attractiveness</p>	<p>Manufacturer strategy and relation to consumer must be attractive to deliver information through innovation by strengthening their capability and performance into the product for long time investment. Meanwhile, consumer benefits of the usage of the new technologies with perceive the high degree of usefulness and ease of use. It is visible in the result that consumer are demand on the advanced technology applied to the new devices can help them experience new performance of Graphic Processing Unit (GPU)</p> <p>The research was examined on Evaluation of Portable Device Usage and Market Attractiveness. The research focuses on the behavior of consumer own current Portable Electronic Devices. The performance of GPU has also been observed to know the consumer demand and needs for the future innovations. The aim of the research was to analyze the innovation of GPU in the Portable Electronic Devices. GPU are playing a vital role in innovation of new product and services as they are economically beneficial for the consumer as well as the manufacturers.</p> <p>The survey of 75 respondents across developed and developing countries highlighted the</p>



				<p>consumer experience about the important attributes of GPU performance in the portable devices. Furthermore, consumer being adapted to new knowledge of portable devices was been examined through the questionnaire and being analyzed to find their needs. The survey identified small opportunity to consumer to study and teach them to discover new technologies in the future for better purchase and experiences.</p> <p>The evolution in GPU generations has given a new path to innovate and produce new ideas to make them into reality. The innovation has given the opportunity to exploit new thoughts and ideas which Portable Electronic Devices can benefit to the consumer. As for consumer to have technological devices in the global market where the innovation of GPU is important, innovation is used as a solution.</p>
<p>MASURI BINTI MASOOD</p> <p>NORZAIDATU LNADIYAH AZMAN</p>	IPT	<p>KOLEJ PROFESIONAL MARA BERANANG, SELANGOR</p>	<p>Speak Up! An Oratory Board Games</p>	<p><i>Speak Up! An Oratory Board Game</i> adalah permainan yang melibatkan elemen kognitif dan psychomotor. Pelajar diberikan satu board game yang berwarna-warni, dadu dan buah mainan (pawn). Penghasilan inovasi ini adalah pengadaptasian dari konsep permainan <i>Monopoly</i> namun pengkaji telah menyesuaikan dengan objektif subjek <i>Public Communication Skills</i> yang mana board game ini lebih menumpukan kepada pengisian berkisarkan subjek pengucapan awam dan kemahiran-kemahiran yang berkaitan dengannya. Responden dalam kajian ini</p>

				<p>adalah terdiri daripada pelajar semester 3, kursus DLH, DIA dan DBS yang mendaftar kursus MPU 2222. Jumlah keseluruhan sampel adalah seramai 100 orang. Dalam kajian ini, penyelidik menggunakan soal selidik sebagai instrumen kajian. Ujian pra dan pasca telah dijalankan kepada pelajar ini iaitu sebelum dan selepas mengaplikasikan inovasi <i>Speak Up! Board Game</i> ini. Kajian kualitatif melalui temu bual bersemuka dibuat dengan 10 orang (n=10) pelajar telah dilaksanakan. Berdasarkan data temu bual, pelajar menyatakan bahawa mereka dapat menambahkan kosa kata, menyampaikan idea secara spontan dan santai di dalam suasana yang ceria di samping memperkukuhkan ilmu sedia ada mengenai subjek pengucapan awam. Tambahan pula, permainan ini juga menggalakkan pengajaran dan pembelajaran bersama rakan sebaya kerana ia menggalakkan penyertaan dan komunikasi dua hala ketika pelajar bermain permainan ini. Penggunaan permainan ini juga boleh memberi nafas baharu bagi kaedah pembelajaran Public Communication Skills.</p> <p>Kata kunci - permainan, kosa kata, pelajar.</p>
<p><b>NOOR NADIAH BINTI AZALI</b></p> <p>FATIN IRDINA BINTI JEFRI</p>	IPT	MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR	<p>Agriculture Smartphone Drone</p>	<p>Nowadays, small farm usually has less worker and the work will be tiresome for them. This drone is used to help them do less work and energy because it will help to spray the insecticide.</p>

<p>NIK MUHAMMAD SYAFIQ BIN ZAINAL EFENDDY</p> <p>AIDIL HAQIMI BIN MASLI</p>	<p>IPT</p>	<p>MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR</p>	<p>Develop Experiment Apparatus &amp; Data Collection For PMA Linear Multi Position Tracking Control</p>	<p>Pneumatic Muscle Actuator are very widely used at Europe in automatic production line now days because it advantages. Pneumatic Muscle offer several advantages over electromechanical and hydraulic actuator for positioning application such as clean operation, simple and reasy maintenance and source of compressed air readily in almost industry plants. However, pneumatic muscle actuator are subject to high friction force, deadband and deadtime which make fast and accurate position control difficult to achieved. This research project presents the process of experiment apparatus design, modelling and collecting data for pneumatic muscle actuator. Matlab software is implemented in order to estimate the mathematical model of pneumatic muscle actuator for controller design. Behaviour of pneumatic muscle been observed if it can move at multiple length based on input given to the system and the output from the experiment.</p>
<p>NUR ALIA SYAFIQAH BINTI HASSAN BUHARI</p> <p>NATASHA JURDITH ANAK JURIT</p>	<p>IPT</p>	<p>MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR</p>	<p>Design and implementation of SYNCHRONOUS 4-BIT Up Counter Using CMOS Process Technology With Variables NAND</p>	<p>In this project a design of synchronous 4-bit up counter is proposed with variety techniques implement in NAND which targets to reduce the power consumption by using the master-slave negative pulse-triggered D flip flop. The master slave D flip-flop is implemented using 8 NAND gates and an inverter. The counter is provided with additional synchronous clear and count enable inputs. The main objective is to optimize the layout of the synchronous 4-bit up counter in terms of</p>

				power dissipation. Various techniques that been implemented to the NAND gate that consist in the SR flip flop that contribute to creation of Master Slave D flip-flop. The design is implemented and simulated using Mentor Graphics.
<b>MUHAMMAD SHAUQI BIN AZMAN</b>  MUHAMMAD IRSYAD BIN JOHARI	IPT	MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR	Key Management System	Projek kotak kunci yang menggunakan sistem aplikasi daripada android iaitu blynk.
<b>AHMAD SYAUQI BIN NUROLHADI</b>  ABDUL RAUF BIN ZULKIFLI	IPT	Mara Japanese Industrial Institute Beranang	Secret Knock Door Detecting Door Lock	Unlock door with pattern of knock
<b>IZZAH ATHIRAH BINTI AHMAD</b>  MUHAMMAD AFIQ BIN ROSLI	IPT	MARA-Japan Industrial Institutie	Water Refill Station Monitoring System	Admin of this machine would know the volume of water flow out by the customer.  The security system is added so that if a burglar wants to steal money from the machine, a buzzer will trigger and admin will get notification.
<b>MUHAMMAD TAHFIZ BIN TONO</b>  TENGGU NUR FARWIZAH BT TENGGU MOHD FOZI	IPT	MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR	Fish Tank Monitoring System (FiTMoS)	In aquaculture, people tend to use a pH probe to check the pH value of water in a fish tank and the result is not immediate where we need to wait for a while to get the result. Turbidity of water is identified by using naked eye where it may affect the growth of the fish inside the pond. Process of changing the water of the fish tank is also a tiring process. Our project is able to read the pH of water, the turbidity of the water, the height of water in the tank and able to change the water when needed by pushing the button. Our project is not a fully automated project because aquaculture is a field where human interaction is still

				essential to make sure there is no error when anything happens.
<p><b>MUHAMMAD ZARIF AL IMAN BIN MARZUKI</b></p> <p>IZZAT AIMAN BIN ZUL HILMI</p>	IPT	MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR	Develop Experiment Apparatus and Data Collection for Pneumatic Muscle Actuators	<p>Pneumatic Muscle Actuators are very widely used in automatic production line nowadays because of its advantages. Pneumatic Muscle Actuators offer several advantages over electromechanical and hydraulic actuator for positioning application such as clean operation, simple and easy maintenance and source of compressed air readily in almost industry plants. However, pneumatic muscle actuators are subject to high friction force, dead band and dead time which make fast and accurate position control difficult to achieved. This project presents the collecting data for pneumatic muscle actuators using rotary encoder and process of design experiments plant. Matlab software is implemented in order to estimate the mathematical modelling of pneumatic muscle actuators for controller design. Behaviour of pneumatic muscle been observed if it can move at multiple angle based on input given to the system and the output from the experiment.</p>
<p><b>NORHASLIN DA BINTI JAMIL</b></p> <p>RUHIZAN BINTI MOHAMMAD YASIN</p>	IPT	MARA - JAPAN INDUSTRIAL INSTITUTE, BERANANG, SELANGOR	Aplikasi pembelajaran mudah alih Mobimath dalam Matematik Kejuruteraan di IPMa	<p>Kajian ini bertujuan membangun dan menilai bahan pembelajaran berbentuk aplikasi mudah alih (<i>Mobimath</i>) untuk kursus Matematik Kejuruteraan bagi keperluan pelajar Diploma Kejuruteraan di IPMa. Aplikasi Mobimath ini</p>

				digunakan sebagai bahan sokongan pembelajaran bagi topik Kalkulus Pembezaan. Metodologi yang digunakan adalah kajian Reka Bentuk dan Pembangunan ( <i>Design and Development Research</i> ) yang diasaskan oleh Richey dan Klien. Kajian ini mengenalpasti keperluan pembelajaran mudah alih ( <i>mobile learning</i> ), mereka bentuk dan membangunkan aplikasi Mobimath dan menilai penerimaan dan penggunaan aplikasi ini terhadap kemahiran penyelesaian masalah.
<b>EZAHERA BINTI DZAIDI</b>  DANISH AJMAL B NAIM ADZHA	SCHOOL	MRSM KUALA KRAI, KELANTAN	Future Industry	Producing multiple intelligent workers will gear up 4.0 industry successfully.
<b>EZAHERA BINTI DZAIDI</b>  MUHD DANISH B MOHD NOR HAKIM	SCHOOL	MRSM KUALA KRAI, KELANTAN	Future Industry	Producing multiple intelligent workers will gear up 4.0 industry successfully.
<b>SITI NASIROH BT. ISMAIL</b>  MUNIRAH BT. AB. MAJID	IPT	POLITEKNIK SULTAN HAJI AHMAD SHAH, KUANTAN, PAHANG	Sistem Pengurusan Makmal Mikrobiologi (MICROSYS)	Makmal Mikrobiologi, Jabatan Teknologi Makanan, POLISAS, memerlukan satu sistem yang khusus untuk menguruskan penggunaan fasiliti makmal. Jumlah pelajar yang besar menggunakan makmal dalam satu-satu masa serta penetapan masa yang sesuai menggunakan peralatan dan penyediaan media adalah satu masalah yang kritikal bagi pembantu makmal mikrobiologi jabatan. Penyediaan sistem pengurusan makmal ini hendaklah akur dengan beberapa kekangan seperti memadamkan jadual penyediaan kelas amali bagi setiap semester yang terlibat dengan jumlah alat radas dan media yang sedia ada

			<p>untuk diguna di dalam makmal dengan adil pada masa yang sesuai. Walaubagaimanapun, proses permohonan menggunakan makmal bagi persediaan eksperimen yang dilakukan secara manual tanpa merujuk jadual waktu yang sesuai telah menyebabkan makmal menjadi sesak sekaligus menyukarkan objektif di atas untuk dicapai. Oleh sebab bilangan kelas, pelajar dan pensyarah yang semakin bertambah dari semasa ke semasa, maka urusan pengurusan penggunaan fasiliti di dalam makmal semakin sukar untuk dilaksanakan. Justeru itu, Sistem Pengurusan Makmal Mikrobiologi (MICROSYS) dibangunkan sebagai inisiatif untuk melancarkan dan mempercepatkan proses penyediaan alat radas dan media agar lebih sistematik.</p> <p>Sistem ini dibangunkan menggunakan aplikasi Microsoft Access versi 2013 yang akan membantu khususnya pembantu makmal mikrobiologi dan pelajar serta pensyarah Jabatan Teknologi Makanan, POLISAS amnya dalam merekod, menyimpan, mengemaskini dan membuat carian data yang diperlukan di dalam makmal secara berpusat. Sehubungan itu, dapat disimpulkan sistem ini adalah merupakan satu platform pengurusan makmal yang lebih sistematik dengan penjimatan masa penyediaan media dan alat radas sebanyak 50%.</p>
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<p>MOHD HAFIZZ BIN WONDI</p> <p>ROSNAH BINTI SHAMSUDIN</p>	<p>IPT</p>	<p>UNIVERSITI PUTRA MALAYSIA, SERDANG, SELANGOR</p>	<p>A Device To Separate a Mesocarp from a Nut of a Drupe (ROTADISC)</p>	<p>Current palm oil milling process involves the pressing of whole oil palm fruitlets. However, the use of screw press to extract the oil out have limitations due to the coexistence of fibers and nuts during pressing. This would lead to oil loss and tendency of nuts breakage. Approximately between 5 to 12% of oil (dry basis) will still remain in the mesocarp, even after being subjected to high pressure mechanical screw presses. This also could lead to a production of a mixture of crude palm and crude palm kernel oils, thus affecting the oil quality. High oil loss and % of broken kernels in press fiber has been reported at approximately 0.25%-0.55% oil loss/FFB in press fiber and 0.32%/FFB kernel oil loss (50% oil in kernel) respectively. A device to separate mesocarp from nuts of oil palm fruitlet has been designed and fabricated to separate the fibers from nuts prior to pressing. The system utilizes a simple technique involving a rotating broadcaster and rotating disc for separation process. This invention had been developed to replace the conventional digester which capable to separate the palm mesocarp (flesh) and nut before oil extraction at palm oil mill.</p>
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<p><b>NUR IZZAH NABILAH HARIS</b></p> <p>DR. SHAFREEZA SOBRI</p>	<p>IPT</p>	<p>UNIVERSITI PUTRA MALAYSIA, SERDANG, SELANGOR</p>	<p>PALMTAB-i (Oil Palm Empty Fruit Bunch Tablet Corrosion Inhibitor)</p>	<p>The technology highlights the potential of oil palm waste, empty fruit bunch (EFB) as corrosion inhibitor. Corrosion is defined as degradation of metal when exposed to corrosive environment. Corrosion inhibitors are widely used in industrial processes to control and reduce metal corrosion. Conventional corrosion inhibitors are mostly chemical-based and are toxic to human health and the environment. Therefore, nature-based corrosion inhibitors is foreseen to be in high demand to replace the traditional inhibitors. PalmTab-I tablet corrosion inhibitor is suitable for mild steel in acidic environment. Generally, the preparation of PalmTab-I involves 3 processes; grinding, mixing and compression into tablet. Weight loss method is used to analyze the corrosion inhibition of PalmTab-I. It is capable of reducing up to 80% and 65% of corrosion when used in powder and tablet form respectively. The tablet form of PalmTab-I has controlled release property which releases the active compounds gradually and is applicable for long term usage. The technology maximizes the use of waste from natural resources to a value added product an effort that can contribute positively towards environment sustainability.</p>
<p><b>FARAHANA NABILAH BT ZAINAL ABIDIN</b></p> <p>ROSNAH SHAMSUDIN</p>	<p>IPT</p>	<p>UNIVERSITI PUTRA MALAYSIA, SERDANG, SELANGOR</p>	<p>Design of Banana Peeling Machine</p>	<p>A tool that is used for peeling plantain effectively.</p>

<p><b>SABER ABDULHAME D M. ALFTESSI</b></p> <p>MOHAMED FARAG TWIBI</p>	<p>International</p>	<p>Universiti Teknologi Malaysia (UTM)</p>	<p>Performance of Cellulose Acetate Flat Sheet Forward Osmosis Membrane using (HBET) (TF2N) Ionic Liquid, NaCl and MgCl<sub>2</sub> DRAW Solution</p>	
<p><b>AHMAD AZFAR BIN ZAMRI</b></p> <p>WAN NOR AFIEZA BT WAN AHMAD SADIKIN</p>	<p>IPT</p>	<p>KKTM KEMAMAN, TERENGGANU</p>	<p>KKTM VIPERS 1: A CHEM E- CAR</p>	



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