KEMENTERIAN PENGAJIAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

POLITEKNIK
MALAYSIA
SULTAN SALAHUDDIN ABDUL AZIZ SHAH

e-PROCEEDING
CIE-TVET 2022

VIRTUAL CONFERENCE

12th NATIONAL CONFERENCE
IN TECHNICAL EDUCATION & VOCATIONAL TRAINING 2022

5-6 SEPTEMBER 2022
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The Development of a Child Alert and Notification System for Forgotten Baby Syndrome

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ABSTRACT

Automobile related injuries and deaths are a global concern. The issue of Forgotten Baby Syndrome, FBS is very familiar nowadays and there are a few death cases reported yearly. FBS is the medical explanation for how a parent can walk away from a car without realizing their child is still inside. Previous research confirms that the leading cause of death for children is heat stroke and hyperthermia after being left unattended in motor vehicles. Moreover, a child's body overheats three to five times faster than adults. The goal of this innovation was to design a system that detects the baby's sounds, particularly crying sounds so that the parent could alert the baby while they were away from the vehicle. When the proposed system senses a certain amount of time of crying sound, the system will be activated, and the parent will receive a notification via Telegram. If the parent had been notified earlier that they would be leaving a child behind, the death or undesirable tragedy could have been avoided. NodeMCU module is used to create the software and hardware development environment, while a sensitive capacitance microphone act as an input used to detect the crying sound of the baby. An alert warning will be sent by telegram to the parent's smartphone. This innovation was designed to save the lives of unintendedly children left in a vehicle and to alert parents with FBS. In conclusion, the development of a system that detects the presence of children can help to reduce the risk of children being left alone in a car.

Keywords: forgotten baby syndrome, alert system, notification, NodeMCU

1. INTRODUCTION

Every year in the world, there are reports of young children dying from heatstroke after being left in parked cars (McLaren et al., 2005). In the United States, the total number of paediatric vehicular heatstroke deaths from 1998 to the present is 920 cases with an annual average of 38 children losing life annually (Jan Null, 2022). While in Malaysia, there are cases a total of six cases of child deaths because of being left in a car have been reported from 2018 to 2020 (Manap et al., 2020). Although the number of cases does not show a large number, it involves the life of the child to their parents. A research paper laid out the three categories of parents who are involved in child deaths from hot cars. They are parents who really forget their kids in the car, parents who intentionally take risks because they are unaware of the dangers of leaving their children in cars and parents who commit criminally neglectful and intentional filicide (Breitfeld, 2020). In Malaysia, most cases or accidents happen because the carer forgets the child is still in the back of the car. Forgotten Baby Syndrome (FBS) is the term used to describe the tragic outcomes that might occur when a baby or young child is unintentionally or accidentally left in a locked car (Mahant et al., 2015). Although it is somewhat unbelievable, this odd occurrence has a medical term as it is considered a psychological state. This syndrome is to be viewed as being related to Working Memory functionality (Anselmi et al., 2020). The cause of death is hyperthermia which can lead to heatstroke. When a person's body temperature rises to an uncontrollable level, it is called hyperthermia (Epstein et al., 2019). It happens when the body cannot control body temperature regulation optimally, causing the body's core temperature to suddenly rise and it's the natural cooling mechanism to fail. If this occurs, heat stroke has the potential to harm the brain and other body organs, leading to eventual death. Researchers found that for vehicles parked in the sun, interior temperatures hit an average of $47°C$ in just one hour (Vanos et al., 2018).

Life is not a bet of carelessness, and all these unfortunate incidents could have been prevented. Thus, prevention needs to be done by all parties including parents, guardians, authorities, and the community.

One smart way to overcome this issue is to create reminders or warning tools whether in the form of digital sensors, special mirrors, or keeping important belonging with the children.

Therefore, the development of a child alert and notification system can help parents to prevent FBS. Mansor et. al, 2019 proposed a Smart Child Detector Alert using temperature sensor to detect the temperature in the car. SMS alert is sent to the designated number and the buzzer alarm is activated when the temperature is more than 40°C which indicate fatal to child (Mansor et al., 2019). Hazizan and team, 2022 has proposed a paper on "Development of Child Safety Car Alert System Using Arduino and GSM Module" to cater the issues of FBS. It uses pressure and motion sensors to detect the presence of a child located in the back seat of the vehicle and GSM allows the system to send an alert to the driver within a short period (Hazizan et al., 2020). Zahari and team invented "Heat Stroke Prevention Wearable Based in Internet of Things (IOT)" for kids to measure the internal temperature of the human body and alerting parents through apps (Zahari et al., 2022).

2. PROBLEM STATEMENT

As working parents, they will of course experience stressful days, busy work schedules, datelines that must be met or being late to the office. In addition, they were coupled with the affairs of the children to be sent to the nursery or baby sister's house. This is one of the factors that may cause the forgotten baby syndrome. And if a parent's routine changes, be especially cautious that's when the chance of leaving the child in your car unintentionally rises. The case of a parent leaving a child in a car resulting in death is highly feared. This can be dangerous as babies and small children have died from being left in cars.

There are reports regarding cases of FBS in Malaysia (Abd Rahman, 2022). In the incident on March 16, 2021, Muhammad Harraz Aryan Mohd Hafizi was found lying unconscious in the back seat of the principal's Proton Waja car at 12.15 noon. The three-year-old child who died in the car was confirmed to have suffered a heat stroke due to extremely hot weather and the vehicle had no ventilation. And in August 2020, we were shocked by the tragedy of a four-year-old girl who is believed to have died due to suffocation after being left in a car in Bukit Makmur, Sungai Lalang. The victim was said to have been left in a Proton Wira car parked at his father's work area for almost 10 hours. Based on an article by MyMetro dated April 18, 2022, according to the Malaysian Fire and Rescue Department (JBPM), for January this year alone, 41 cases were reported, but there were no deaths because the authorities were quick to rescue children trapped in vehicles (Raja Rahim et., 2022).

Figure 1: Newspaper Cutting from an Online MyMetro Article "Sindrom Terlupa Anak" Dated April 18, 2022
(Raja Rahim et., 2022)

There are two main purposes of this innovation; one is to design a system that detects the sound of a crying baby in a car which was left by parents for a certain duration. The second one is to notify the parents about their children who are left behind inside the car through telegram notification. This project aims to develop a prototype of a low-cost and simple implementation of a Child Alert and Notification System using NodeMCU and Arduino IDE with intended for the system that sends alerts to the parents or guardian. The NodeMCU has a built-in WiFi connection and can access the internet through WiFi. It works

great for Internet of Things, IoT. Studies and reviews on previous innovation uses different kind of detection mechanism, the development of proposed system use a sound sensor as it can be manipulated in real time (Hazizan et al., 2020). This system uses a bot from Telegram to give notification through NodeMCU as a micro controller. It has no adverts and is free.

3. METHODOLOGY

This project aims to develop a system that can detect a baby's sounds; especially crying so that the mother or another responsible person can notify the baby while away from him or her. System architecture and the proposed solution of the process are addressed in this section. Process specification and flow chart give the view of the project in brief.

3.1 Proposed System

The proposed system is suitable for parents or guardian who travel with children. Normally, the backseat is where the children will sit in a car because it provides additional protection from the windshield, dashboard, and airbag. Sometimes, parents intend to forget about their children especially those who sleep behind the seat. Once the children wake up, they will begin to cry or scream. The system will detect the loud voice. As the sound reaches a certain level and time, parents or guardians will receive a notification from the Telegram application. It is an alert system to save the children lives if they have been left unintentionally in the car. Figure 2 shows the child alert and notification development system for the FBS.
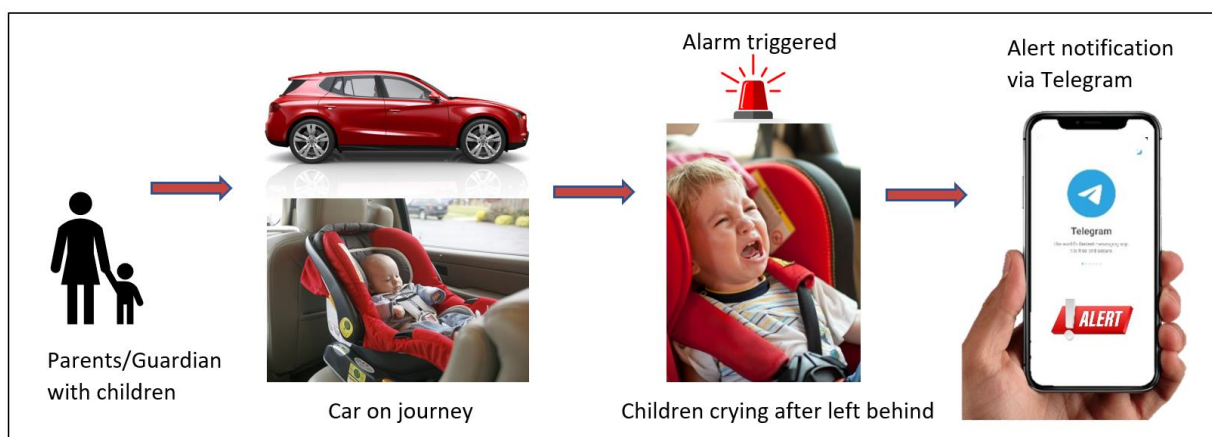

Figure 2: A Proposed System for the Development of Child Alert and Notification System Using IoT

3.2 System Architecture

Figure 3 shows the project block diagram for the child alert and notification system for forgotten baby syndrome. The block diagram consists of three main sections (input, process, and output). In the input section, a sensitive capacitance microphone act as an input to detect the crying sound of the baby. The system uses a microphone sensor module that includes a sensitive capacitance microphone for detecting sound and an amplifier circuit. The digital output acts as an activation key when sound intensity has reached a certain threshold. The sensitivity threshold is adjustable via the potentiometer on the sensor.
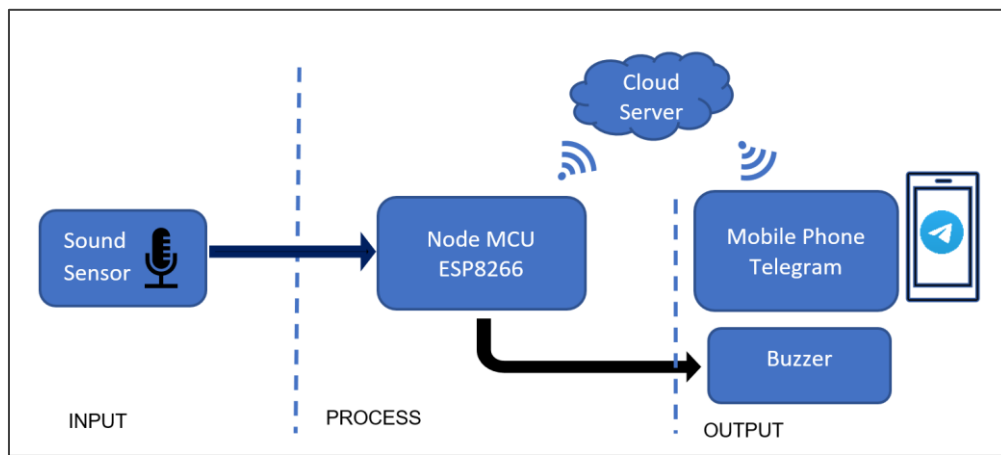
Figure 3: Block Diagram of Child Alert and Notification System

The Node Microcontroller Unit Node or NodeMCU has been selected as a controller for this project. It is an open-source software and hardware development environment that is built around a very inexpensive System-on-a-Chip (SoC) called the ESP8266 (Parihar, Sing, 2019). The advantage of using NodeMCU compared to Arduino is because it is equipped with a WIFI module that facilitates data transmission. Input signal data received by the NodeMCU will then be processed. At the output section, the buzzer will be activated giving an alarm to attract surroundings. The NodeMCU will interact with the Telegram bot to send messages to a personal telegram account. Telegram Messenger is a cloud-based instant messaging and voice over IP service.

3.3 Flow Chart

Figure 4 explains the flow chart of the proposed system, the process starts after the WIFI was successfully connected to NodeMCU. When the system detect sound above the threshold indicated by the system for more than 60 seconds, the system will be activated. The purpose of timer is to eliminate the possibilities of interference from outside the vehicle. Alarm then will be trigger and the system will send a child alert notification to the parents or guardians smartphone through the Telegram application.
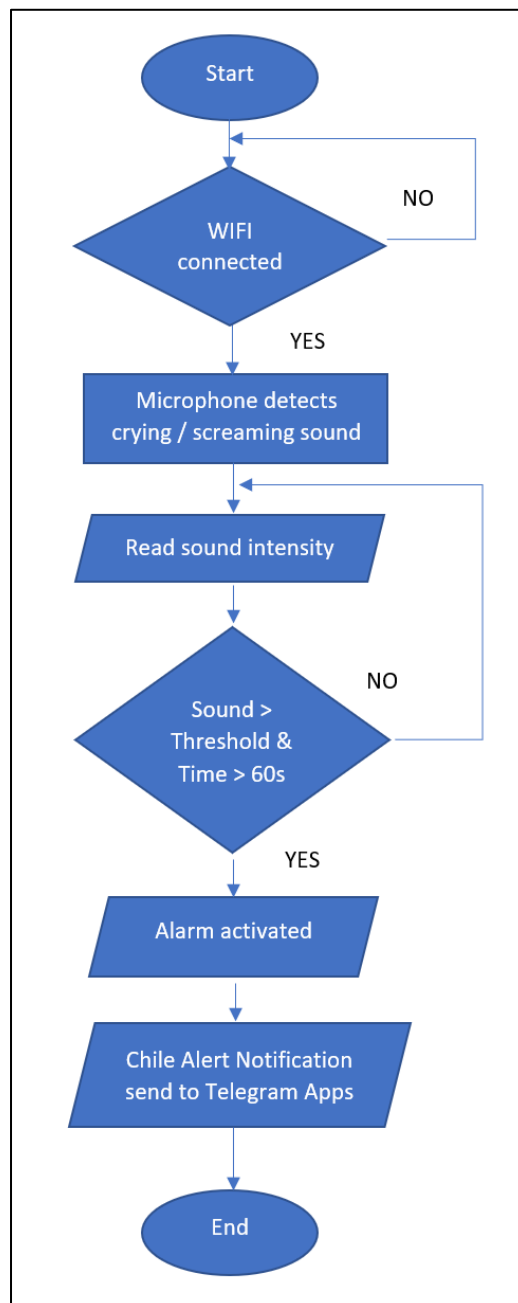
Figure 4: System Flow Chart Process Specification

4. RESULT AND DISCUSSION

4.1 Hardware Implementation

Figure 5 shows the hardware implementation of the system, it consists of NodeMCU, sound sensor, buzzer, and battery. An apps called Sound Level Meter was used to determine the right level of a crying level. Sound is measured in units called decibels (dBA). The louder the noise, the higher the decibel level. Normal conversation decibels range is about 60 to 65 dB(A) while the range of crying kids is between 100 to 120 dB(A). The system was activated at sound above 100 dB(A). The developed hardware had the capability of detecting the crying sound of baby. The test the system, a four-year-old kid was left in the car and was asked to cry during the experiment. The system successfully triggered an alarm and sending alert message to the guardian.
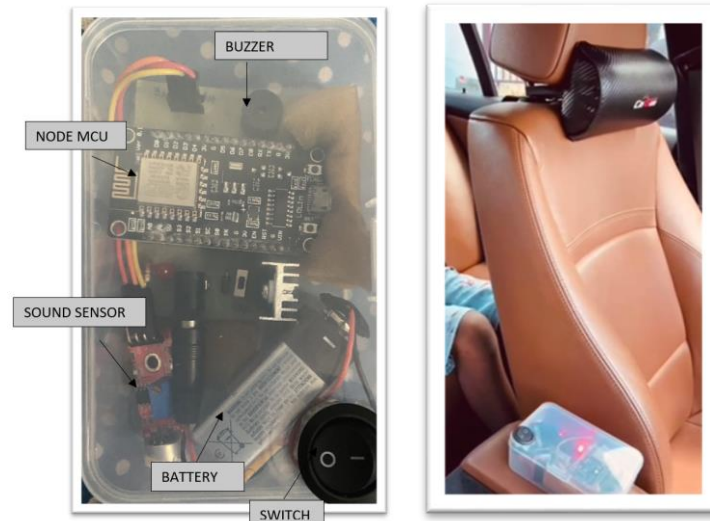
Figure 5: Hardware Implementation of the Project

4.2 Software Implementation

The NodeMCU board will be programmed using Arduino IDE. The Arduino Integrated Development Environment or Arduino Software (IDE) contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions and a series of menus. Arduino IDE is a software that used to write and upload programs to Arduino compatible boards.

Alert notification will be sent through the user smartphone in the Telegram application. A Telegram bot need to be created. Bots are third-party applications that run inside Telegram. Users can interact with bots by sending them messages, commands, and inline requests. By utilizing HTTPS requests to the Telegram Bot API, the system was easy to manage. (Ismawati & Prasetyo, 2020). Figure 6 shows the display of the Telegram Bot that has been programmed to alert parents.

Figure 6: Child Alert Notification Via Telegram Applications

4.3 System Testing

The whole proposed system has been tested. Table 1 shows the result of each tested analysis. After the children cry or scream for more than 60 seconds, the system will first trigger an alarm. It took around 3 seconds for the alarm to buzz. The system then will send an information signal to the cloud server to alert the parents via Telegram. It took about 8 seconds after the alarm for the parents to receives the alert notification.

Table 1: Analysis of Proposed System

Data Analysis	Result
Times delay for the system to trigger alarm	3 seconds
Times delay displaying the output on the smartphone via Telegram app (Based on the x service provider)	8 seconds

4.4 Market Survey

In addition, a survey was done to determine the product's ability to commercialize in the market. This study was also carried out to demonstrate the researcher's goals of completing the project, building the product, and testing it. There are three questions have been asked to the public:

i. Have you heard of cases of children's death because they were accidentally left in a locked car?
ii. Do you think a device to alert parents about forgotten children will help?
iii. Do you think this innovation (referring to the development of a child alert and notification system for forgotten baby syndrome) will help to save lives?
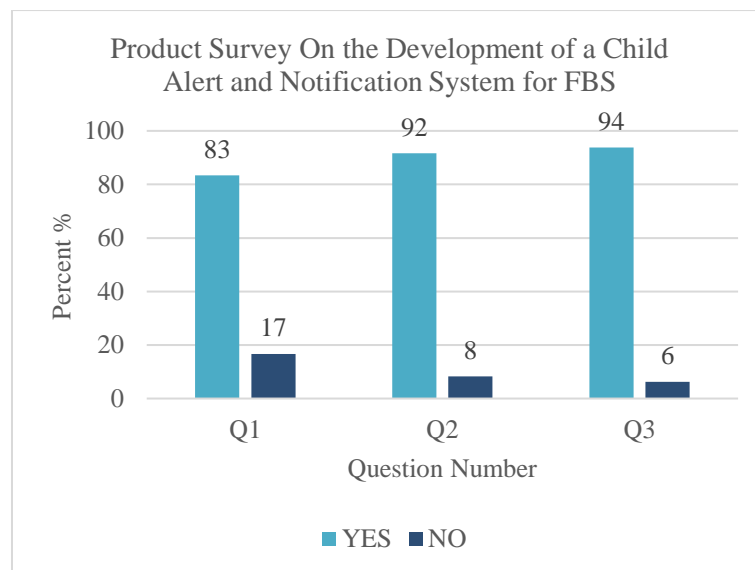

Figure 7: Market Survey

According to Figure 7, most of them are aware that there were cases of children accidentally left in a locked car heat stroke is an ongoing problem. The unfortunate incident involving a small child drowning in a vehicle due to negligence is still recurring. Malaysian government has amended the Children Act 2001 in 2016 by imposing heavier penalties under Section 31 of the Children Act 2001 (Laws of Malaysia, 2018). Even though an emphasis on education and awareness focused on parents or guardians and to the public, in general, have been given, this could not stop the number of a child end up in this kind of tragedy. This shows that it's very important to develop a device or system that can notify the driver or alert them on the issue. 92 percent of them agreed to create a device to alert parents about the left behind children. In addition, after explaining the innovation, 94 percent agreed that the innovation will help to save lives. In conclusion, FBS could be reduce with the help of this system.

5. CONCLUSION

FBS is a syndrome that needs to be addressed so the case of the death of a child accidentally left in a car needs to be prevented. Therefore, the development of a child alert and notification system can help parents to save the lives of children. The main result of this innovation is to design and implement a device that will trigger an alarm and send an alert to notify the parent if the child was left in the car. The system has successfully used smartphone as one of the most important tech gears. The effectiveness of the system is to ensure the safety of humans within the golden time. As a result, human error and accident statistics could be reduced with such implementation. Future implementation for the proposed system is to integrate the automated power windows after the sensor detects the crying sound. This is a fast action to decrease the temperature in the car thus avoiding death caused by hyperthermia.

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JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

POLITEKNIK
MALAYSIA
SULTAN SALAHUDDIN ABDUL AZIZ SHAH

BUKU PROGRAM

CiE-TVET

VIRTUAL CONFERENCE

2022

12th NATIONAL CONFERENCE
IN TECHNICAL EDUCATION & VOCATIONAL TRAINING 2022

5-6 SEPTEMBER 2022
POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

ISI KANDUNGAN

KATA ALU-ALUAN
TIMBALAN KETUA PENGARAH (PERANCANGAN)

Assalamualaikum Warahmatullahi Wabarakatuh, Salam Sejahtera dan Salam Keluarga Malaysia.

Setinggi-tinggi kesyukuran kepada Allah S.W.T kerana dengan limpah *kurniaNya 12th National Conference in Technical Education and Vocational Training* (CiE-TVET) *2022* dapat dilaksanakan dengan jayanya.

Sekalung tahniah diucapkan kepada seluruh warga Politeknik Sultan Salahuddin Abdul Aziz Shah serta jawatankuasa yang bertungkus lumus bagi menjayakan CiE-TVET 2022 sehinggalah mencapai kemuncaknya pada hari ini. Syabas dan tahniah juga diucapkan kepada para peserta seminar CiE-TVET 2022. Perkongsian ilmu dalam kalangan para penyelidik amat diperlukan agar bidang pendidikan dan penyelidikan Negara sentiasa ke hadapan.

Sejajar dengan kemajuan teknologi IR4.0, tenaga pengajar bertanggungjawab mengembangkan minat, bakat dan kebolehan pelajar. Mereka harus bersikap peka dan responsif kepada sebarang bentuk perubahan teknologi dalam industri agar tidak ketinggalan zaman apabila berhadapan dengan para pelajar.

Justeru, CiE-TVET 2022 kali ini dilihat sebagai salah satu platform bagi para penyelidik untuk bertemu dan saling berkongsi hasil penyelidikan di antara satu sama lain. Perkongsian sebegini juga dapat meningkatkan kualiti keilmuan dalam kalangan ahli akademik seraya menyemai pembudayaan aktiviti penyelidikan di intitusi pengajian tinggi terutamanya di Politeknik dan Kolej Komuniti Malaysia. Ini seterusnya meletakkan Politeknik dan Kolej Komuniti ke persada kecemerlangan dan menjadi peneraju TVET negara yang unggul dan disegani.

Sekian, terima kasih.

YBrs. Dr ZUBAIDAH BINTI AMAN
TIMBALAN KETUA PENGARAH (PERANCANGAN)
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

KATA ALU-ALUAN
PENGARAH PUSAT PENYELIDIKAN DAN INOVASI

Salam Sejahtera dan Salam Keluarga Malaysia.

Terlebih dahulu syabas saya ucapkan kepada warga Politeknik Sultan Salahuddin Abdul Aziz Shah (PSA) serta seluruh jawatankuasa yang terlibat atas komitmen dalam menjayakan penganjuranI *12th National Conference In Education-Technical and Vocational Education and Training* (Cie-TVET 2022).

Syabas dan tahniah saya ucapkan kepada pembentang dan peserta seminar Cie-TVET 2022 kali ke -12. Saya percaya dengan adanya seminar seperti ini, kita dapat terus menyemarakkan semangat penyelidikan dalam kalangan warga JPPKK untuk lebih produktif di samping menggilap bakat penulis baharu. Tidak lupa juga saya ingin merakamkan penghargaan dan ucapan tahniah kepada semua ahli jawatakuasa seminar kali ini.

Agenda pemerkasaan Pendidikan Teknikal dan Latihan Vokasional (TVET) yang didukung Jabatan Pendidikan Politeknik dan Kolej Komuniti (JPPKK) adalah selaras dengan hasrat negara dalam membangunkan aktiviti ekonomi berasaskan pengetahuan dan inovasi dengan melahirkan graduan TVET berkualiti. Oleh itu, perkongsian ilmu perlu diberi penekanan bagi memastikan ia sentiasa relevan, kini dan pada masa hadapan. Dapat saya simpulkan bahawa penganjuran seminar ini berjaya bertindak sebagai medium ilmu yang dipertanggungjawabkan untuk menyebarkan hasil kajian penyelidik.

Akhir kata, setinggi-tinggi ucapan tahniah dan terima kasih atas komitmen dan kerjasama yang diberikan kepada warga Politeknik Sultan Salahuddin Abdul Aziz Shah untuk penganjuran pada seminar Cie-TVET 2022 pada tahun ini. Diharap hasil penganjuran seminar kali ini dapat meningkatkan pengetahuan dan menjadi pemangkin ke arah kecemerlangan pendidikan TVET serta bakal mencorak aliran pendidikan yang lebih berkualiti di masa akan datang.
Sekian, terima kasih.

YBrs. DR. RIAM A/P CHAU MAI
PENGARAH,
PUSAT PENYELIDIKAN DAN INOVASI,
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

KATA ALU-ALUAN
PENGARAH POLITEKNIK SULTAN SALAHUDDIN
ABDUL AZIZ SHAH

Assalamualaikum Warahmatullahi Wabarakatuh, Salam Sejahtera dan Salam Keluarga Malaysia.

Alhamdulilah terlebih dahulu syukur ke hadrat Allah S.W.T. atas kurnia-Nya dan keizinan-Nya CiE-TVET 2022 berjaya dilaksanakan. Terima kasih kerana memberi kepercayaan kepada Politeknik Sultan Salahuddin Abdul Aziz Shah bagi menganjurkan seminar kali ini.

Tema "TVET Education: Leveraging the Future" yang bermaksud pendidikan TVET adalah satu pelaburan untuk masa hadapan yang dipilih sangat signifikan dan bertepatan dengan usaha kerajaan untuk memperkasakan TVET. Kelayakan pendidikan yang tinggi bagi menyokong pembangunan pengetahuan dan inovasi, tahap kemahiran yang tinggi dalam bidang teknikal dan profesional, serta paras produktiviti yang tinggi adalah ciri utama modal insan dan tenaga kerja negara berpendapatan tinggi.

Seminar ini turut memberi penghargaan kepada semua pembentang dan penyelidik yang terlibat secara langsung dan tidak langsung. Syabas dan tahniah kepada semua peserta yang banyak memberi sumbangan dalam bidang penyelidikan. Saya berharap seminar ini menjadi pemacu untuk pensyarah, staf dan pelajar untuk berkongsi ilmu pengetahuan bagi meningkatkan nilai kepakaran dalam bidang dan melatih pensyarah, staf dan pelajar untuk berfikir secara kreatif dan kritis bagi mencetus transformasi berkesan.

Setinggi-tinggi penghargaan juga diucapkan kepada semua pihak terutama ahli jawatankuasa yang bertungkus-lumus menjayakan *National Conference In Education-Technical And Vocational Education And Training 2022* kali ke-12 ini. Akhir kata, semoga seminar seumpama ini diteruskan dan dijadikan platform kepada warga Politeknik dan Kolej Komuniti untuk terus bersama-sama membudayakan penyelidikan.

Sekian, terima kasih.

YBrs. Dr. HJ. MOHD ZAHARI BIN ISMAIL
PENGARAH
POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

ATURCARA MAJLIS PENUTUP

TEMPAT: DEWAN AL-JAZARI, PSA

6 SEPTEMBER 2022 (SELASA)

MASA	PERKARA
2.00 petang	Ketibaan Jemputan
2.15 petang	Ketibaan YBrs. Dr. Zubaidah binti Aman Timbalan Pengarah (Perancangan) Jabatan Pendidikan Politeknik dan Kolej Komuniti
2.30 petang	Nyanyian Lagu Negaraku
	Tayangan Video Keselamatan
	Ucapan Alu-Aluan oleh YBrs. Dr. Haji Mohd Zahari bin Ismail Pengarah Politeknik Sultan Salahuddin Abdul Aziz Shah
	Ucapan Penutupan oleh YBrs. Dr. Zubaidah binti Aman Timbalan Pengarah (Perancangan) Jabatan Pendidikan Politeknik dan Kolej Komuniti
3.00 petang	*Keynote Speaker* : Prof. Ts. Dr. Uda Hashim Pengarah Institute of Nano Electric Engineering (INEE) Universiti Malaysia Perlis (UniMAP)
3.40 petang	Ulasan Ketua Reviewer: Dr Hj. Zunuwanas bin Mohamad Pensyarah Utama Politeknik Sultan Salahuddin Abdul Aziz Shah
3.50 petang	Penyampaian Anugerah Pembentang/ Penyelidikan Terbaik
4.00 petang	Penyampaian Cenderahati
4.15 petang	Sesi Bergambar
4.25 petang	Nyanyian Lagu Politeknik & Kolej Komuniti
4.30 petang	Minum Petang Bersurai
3.40 petang	Ulasan Ketua Reviewer: Dr Hj. Zunuwanas bin Mohamad Pensyarah Utama Politeknik Sultan Salahuddin Abdul Aziz Shah

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 1

MODERATOR : NURUL AKMAR BINTI KAMARUDDIN

JURI 1   : DR. AHMAD AZLAN BIN AB AZIZ

JURI 2   : DR. SABARIAH BINTI BOHANUDIN

PIC BILIK   : SARIMAH BINTI CHE HASSAN

SESI 1
TARIKH: 5/9/2022 (ISNIN)
MASA: 9.00 PAGI – 12.00 TENGAHARI

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0001	PENGUMPULAN TERMA TENAGA SOLAR BAGI KITARAN RANKINE ORGANIK (ORK)	MUHAMAD ASRUL AFFENDI MAT NOR FARAH WAHEDA BINTI OTHMAN ZULKURNAIN BIN HASSAN	KK PASIR SALAK KK PASIR SALAK POLITEKNIK PORT DICKSON
2	CIE-TVET 2022-0017	MENINGKATKAN KEMAHIRAN MENGUASAI KURSUS APLIKASI KOMPUTER MENGGUNAKAN PENDEKATAN SAMPUL MISTERI	EMARIA AHMAD ABDUL RAHMAN BIN MORNI	KK KUCHING KK SARIKEI
3	CIE-TVET 2022-0020	GROWTH PERFORMANCE OF THREE PURPLE SWEET POTATO VARIETIES	SITI NURJIAH ABDULLAH	POLITEKNIK JELI
4	CIE-TVET 2022-0048	IOT BASED HOME AUTOMATION AND APPLIANCES CONTROL	MOHAMAD FAIZ BIN JAMALUDIN	PSIS

BILIK 2

MODERATOR : SALIZAHANIM BINTI LEMAN

JURI 1   : DR. AZIAM BINTI MUSTAFA

JURI 2   : DR. MOHAMAD SIRI BIN MUSLIMIN

PIC BILIK   : HARYANTI BT ABDULLAH

SESI 1
TARIKH: 5/9/2022 (ISNIN)
MASA: 9.00 PAGI – 12.00 TENGAHARI

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0002	THE IMPACT OF PERCEIVED USEFULNESS, PERCEIVED EASE OF USE, PERCEIVED VALUE AND PERCEIVED RISK ON PURCHASE INTENTION VIA HYPERMARKET DRIVE-THRU AMONG KLANG VALLEY CONSUMERS	PUSHPALATHA APPANAIDU	PSA
2	CIE-TVET 2022-0004	MALAYSIAN SHOPPERS' BEHAVIOR IN E-TAILING	DR. NOORDINI ABDULLAH ROSAMIZA BINTI MEOR RAZAK DR. PARAMESWARI SHUNMUGAM	PSA
3	CIE-TVET 2022-0043	THE IMPACT OF ATTITUDE, AWARENESS, RELIGIOSITY AND KNOWLEDGE ON HIBAH PURCHASE INTENTION AMONG MUSLIM COMMUNITY IN HIGHER LEARNING INSTITUTIONS	DR AZIAM MUSTAFA SITI RAWAIDAH BINTI MOHD RAZIKIN ZAKIAH OTHMAN NOR LAILA HASSAN	PSA
4	CIE-TVET 2022-0057	IDENTIFICATION OF READING IMPAIRMENTS AMONG TVET STUDENTS	DR. PARAMESWARI SHUNMUGAM VIJAYAKUMAR VENGADASALAM	PSA MULTIMEDIA UNIVERSITY
5	CIE-TVET 2022-0059	DEVELOPMENT OF PORTABLE MUSCLE THERAPY FOR SKELETAL MUSCLE INJURY	TS ASMIRA BIN ASHARI YAAKUB BIN OMAR	PSA

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 3

MODERATOR : NORANIZAH BINTI SARBANI

JURI 1　　　: DR. MARLINA BINTI RAMLI

JURI 2　　　: TS. DR. KANNAN RASSIAH

PIC BILIK　　: INTAN SYAFIQAH BINTI MOHD SHAH

SESI 1
TARIKH: 5/9/2022 (ISNIN)
MASA: 9.00 – 12.00 TENGAHARI

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0003	KAJIAN KOMPOSISI DAN PENGASINGAN SISA PEPEJAL DI INDERA MAHKOTA 16, KUANTAN	TEE LIAN YONG NORRIZAH BINTI ABD WAHAB MUHAMAD FIRDAUS BIN CHE AMAT.	POLISAS
2	CIE-TVET 2022-0007	FLEXIBLE SHORING	AIDALIA ENDUT HALIZA BINTI AB KARIM NUR HANANI BINTI DAUD	POLISAS
3	CIE-TVET 2022-0039	PENILAIAN TAHAP KESELESAAN TERMAL DI HOSPITAL KERAJAAN	MUHAMAD ZAKWAN BIN ZAKARIAH NORSYAHIDA BINTI ZAKARIA NURHIDAYU BINTI AZHARI	PKS
4	CIE-TVET 2022-0055	ECO BATHROOM FLOOR DRYER	TS. ZURENA BINTI LEMEN ISMA AFIZA BINTI ISMAIL	PSA
5	CIE-TVET 2022-0008	ECO RUBBER PAVER	AIDALIA BINTI ENDUT NURUL IZZA BINTI ABD GHANI	POLISAS

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 4

MODERATOR : DIANA BINTI NASARUDDIN

JURI 1 : DR. ZAINATULIZA BINTI ZAINAL ABIDIN

JURI 2 : DR. YUSRIZAL SUFARDI BIN MOHD YUNAN

PIC BILIK : SITI AISHAH BINTI AB JALIL

SESI 1
TARIKH: 5/9/2022 (ISNIN)
MASA: 9.00 – 12.00 TENGAHARI

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0014	POLITEKNIK MERSING STUDENT'S SCORES IN THE TOEICÂ® LISTENING AND READING TEST	NORHASLINDA BINTI MUHAMADIN ADLEENA ADHA BINTI ABDUL MUA'AIN BAIZURA HASNI	POLITEKNIK MERSING POLITEKNIK TUN SYED NASIR SYED ISMAIL POLITEKNIK MERSING
2	CIE-TVET 2022-0023	TAHAP KEPUASAN DAN PERSEPSI PELAJAR POLITEKNIK SULTAN AZLAN SHAH TERHADAP PEMBELAJARAN DALAM TALIAN	HAFIZA IBRAHIM SITI NOOR OTHMAN AZIA IDAYU AWANG	POLITEKNIK SULTAN AZLAN SHAH
3	CIE-TVET 2022-0016	KAJIAN KEPUASAN PELAJAR KOLEJ KOMUNITI KUCHING TERHADAP MUZIUM BUDAYA BORNEO SEBAGAI TEMPAT PEMBELAJARAN DIGITAL	EMARIA BINTI AHMAD ABDUL RAHMAN BIN MORNI	KOLEJ KOMUNITI KUCHING, SARAWAK. KOLEJ KOMUNITI SARIKEI, SARAWAK.
4	CIE-TVET 2022-0022	KECENDERUNGAN PELAJAR KHAS BERMASALAH PENDENGARAN DALAM MEMILIH PENGAJIAN BIDANG TVET DI INSTITUSI PENGAJIAN TINGGI MALAYSIA	THENMOLY RAMACHANTHIRAN SITI KHALIJAH JAMAL NURUS SADIQIN ABDUL RAZAK KHAN NURUL AINI MOHD AHYAN	UTM PSA PSA UTM
5	CIE-TVET 2022-0024	HUBUNGAN ANTARA TAHAP KEPUASAN DAN PERSEPSI PELAJAR POLITEKNIK SULTAN AZLAN SHAH TERHADAP NORMA PEMBELAJARAN DALAM TALIAN	AZIA IDAYU AWANG SITI NOOR OTHMAN HAFIZA IBRAHIM	PSAS

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 5

MODERATOR : NOOR HAYATI BINTI MAT TAIB

JURI 1 : DR. SITI ANIZAH BINTI MUHAMED

JURI 2 : DR. FAZIDA BINTI ADLAN

PIC BILIK : SITI RAWAIDAH BINTI MOHD RAZIKIN

SESI 1
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 TENGAHARI

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0037	REKABENTUK ALAT PEMOTONG MUDAH ALIH SERBAGUNA	DR. MOHD ELIAS DAUD	PSA
2	CIE-TVET 2022-0030	PERKEMBANGAN PERKHIDMATAN DIGITAL PERPUSTAKAAN: ISU DAN CABARAN DI PERPUSTAKAAN IBNU KHALDUN	SITI ZUBAIDAH AHMAD NORHAYATI MAJID DR. AINUL HAEZAH NORUZMAN	PSA
3	CIE-TVET 2022-0044	KEBOLEHGUNAAN DAN KESAN APLIKASI MUDAH ALIH (MOBILE APPS) DALAM MENGESAN KEDUDUKAN MOTOSIKAL	NORMILA BINTI MOKHTAR SHAHIDA BINTI YUSOF YOGADEVI SUPRAMANIAM	PSAS
4	CIE-TVET 2022-0046	PERSEPSI PERMAINAN CROWD PAIR CARD DALAM PENGAJARAN DAN PEMBELAJARAN	NONI LELA HAYATI BINTI AYOB DEK AFIFA BINTI NORDAN NUR SYAMSINA BINTI AB AZIZ	PMM

BILIK 6

MODERATOR : NAAGAJOOTHI A/P ADIN NARAINA

JURI 1 : DR. NORZIANIS BINTI REZALI@ABDUL SUKOR

JURI 2 : DR. NORAZWA BINTI AHMAD ZOLKIFLI

PIC BILIK : SURIA BINTI MD YUSOF

SESI II
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 PETANG

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0033	KEBERKESANAN PENGGUNAAN APPVIDS 1.0 SEBAGAI ALAT BANTU MENGAJAR BAGI KURSUS DYA 30083: BASIC ROBOTIC & AUTOMATION IN AGRICULTURE DI POLITEKNIK SANDAKAN SABAH	SAMSUR BIN NONGKANG ARMANJAYA BIN AMIRULLAH NORSHAHADAH BINTI ABD RAHMAN	POLITEKNIK SANDAKAN
2	CIE-TVET 2022-0041	INDUSTRIAL VISITING LECTURERS PROGRAMME IN UNDERGRADUATE STUDIES: REFLECTION ON STUDENTS' LEARNING	DR NORHASLIN ABU HASSAN MOHAMAD HANIF MOHAMAD SALLEH	POLITEKNIK TAWAU SABAH
3	CIE-TVET 2022-0042	KAJIAN DAN ANALISIS PASARAN KE ARAH TVET UNTUK PROGRAM SIJIL REKABENTUK DALAMAN 2013-2020	AMIRUDDIN MAT MUHAPIS A HAKIM MD ALIMI YASINAN RAMLI MOHAMED HARYATY SUA LIYA SUKIMIN	KOLEJ KOMUNITI SHAH ALAM
4	CIE-TVET 2022-0052	THE RELATIONSHIP BETWEEN STAFF TEAMWORK WITH THEIR JOB PERFORMANCE AT POLITEKNIK MERLIMAU	NUR SYAMSINA AB AZIZ	POLITEKNIK MERLIMAU

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 7

MODERATOR : IDA MARIA BINTI MOHD YUSOFF

JURI 1   : DR. ZANATUL SHIMA BINTI AMINUDDIN

JURI 2   : DR. NOR RAHIMY BINTI KHALID

PIC BILIK   : SITI MAHANUM BINTI SHAIK ISMAIL

SESI II
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 PETANG

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CiE-TVET 2022-0054	PENGGUNAAN PLATFORM MICROSOFT TEAMS DALAM PENGAJARAN DAN PEMBELAJARAN KURSUS PROGRAMMING FUNDAMENTALS BAGI PELAJAR SEMESTER 2 POLITEKNIK SULTAN HAJI AHMAD SHAH: PENERIMAAN PELAJAR DAN KEMUDAHAN PENGGUNAAN PLATFORM	NOR HAMIZA BINTI GHAZALI	POLISAS
2	CiE-TVET 2022-0056	STAR/DELTA 3 PHASE SYSTEM: EDUCATIONAL TRAINER	SHARMIZA KAMARUDDIN BAKISS HIYANA ABU BAKAR RINA RAHA ABDUL HAMID	POLISAS POLISAS KK PASIR SALAK
3	CiE-TVET 2022-0049	KAJIAN GAYA PEMBELAJARAN TERHADAP PELAJAR KEJURUTERAAN MEKANIKAL, POLITEKNIK MERLIMAU MELAKA	SHARNOL BIN MUSTAFA	POLITEKNIK MERLIMAU
4	CiE-TVET 2022-0011	KAJIAN KEBERKESANAN PEMBANGUNAN E-PROJEK PELAJAR DALAM PENGURUSAN DAN PEMBELAJARAN PROJEK PELAJAR DI POLITEKNIK MELAKA	HUSSEIN MD ZAN SINATU SADIAH SHAPIE SAIFFUL BAHARI OMAR	POLITEKNIK MELAKA
5	CiE-TVET 2022-0035	KEBOLEHPASARAN GRADUAN PSA: SATU KAJIAN PERBANDINGAN ANTARA GRADUAN JABATAN PERDAGANGAN DENGAN JABATAN KEJURUTERAAN	NORLELA BINTI ZAMAN ROSAMIZA MEOR RAZAK NOR LAILA BINTI HASSAN	PSA

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 8

MODERATOR : WAN NORHIDAYAH BINTI WAN MOHAMED NOOR

JURI 1   : DR. BAHARUDDIN BIN MUSTAPHA

JURI 2   : TS. DR. ZUNUWANAS BIN MOHAMAD

PIC BILIK   : NOR LAILA BINTI HASSAN

SESI II
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 PETANG

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0010	THE DEVELOPMENT OF A CHILD ALERT AND NOTIFICATION SYSTEM FOR FORGOTTEN BABY SYNDROME	NUR SURIYA BINTI MOHAMAD RAVENRAJ A/L MOGAN	PSA
2	CIE-TVET 2022-0019	AUTOMATED ARM REHABILITATION MONITORING SYSTEM	NUR RABIATUL ADAWIYAH	PSA
3	CIE-TVET 2022-0029	DEVELOPMENT OF FOOT PRESSURE MONITORING SYSTEM USING FORCE SENSOR	NOR KHARUL AINA MAT DIN NIK NOR AFIFAH NIK MOHAMMAD JAFRI	PSA
4	CIE-TVET 2022-0031	THE DEVELOPMENT OF SKIN RESISTANCE ARDUINO-BASED MODULE FOR STRESS MONITORING	ILYA ISMAIL NURIN BATRISYIA ABD RAHMAN NADIAH DIN NURHIDAYA MUSA	PSA

BILIK 9

MODERATOR : Ts. NUR HAZLIN BINTI MD GHARIP

JURI 1   : DR. MOHD SHAHROM BIN ISMAIL

JURI 2   : DR. MOHD ELIAS BIN DAUD

PIC BILIK   : ZAKIAH BINTI OTHMAN

SESI II
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 PETANG

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0006	PEMBANGUNAN ALAT BERSISTEMATIK DALAM PEMOTONGAN FABRIK DENGAN KAEDAH TEKNOLOGI PINTAR (STM) UNTUK PEMBUAT PAKAIAN	ZAINI MADARSHAH	POLITEKNIK IBRAHIM SULTAN
2	CIE-TVET 2022-0009	E-POCKET FLUID MECHANICS	WAN MAJDAH TON MAMAT ZETTY ROHAIZA BINTI MOHD SAHAK@ISHAK NAZRATULHUDA BINTI HASHIM	PSA
3	CIE-TVET 2022-0021	KAJIAN KEBERKESANAN PEMULIHAN HABA DARI PETI SEJUK BAGI KEGUNAAN PENGERINGAN PAKAIAN	SHARUL NIZAM BIN YAAKOP MUHAMAD ASRUL AFFENDI BIN MAT NOR MUHAMAD SYAMER BIN MOHD NASIR	KOLEJ KOMUNITI KOTA MARUDU KOLEJ KOMUNITI PASIR SALAK
4	CIE-TVET 2022-0025	KAJIAN PERBANDINGAN PENGAGIHAN UDARA MENGGUNAKAN FABRIC DUCT VS G.I DUCT DI KOLEJ KOMUNITI KOTA MARUDU	TS. KHAIRUL IZWAN BIN ABDUL WAHAB SHARUL NIZAM BIN YAAKOP MUHAMAD SYAMER BIN MOHD NASIR	KOLEJ KOMUNITI KOTA MARUDU
5	CIE-TVET 2022-0034	SMART WHEEL CHAIR	TS. NOORAZLAN MOHD SAMSUDDIN MUHAMMAD FAIZ ABDULLAH	PSA

10

JADUAL PEMBENTANGAN CiE-TVET 2022

BILIK 10

MODERATOR : AKMARYA SYUKHAIRILNISAH BINTI MOHD AKHIR

JURI 1   **: DR. PARAMESWARI A/P SHUNMUGAM**

JURI 2   **: DR. NOORDINI BINTI ABDULLAH**

PIC BILIK   **: AHMAD YUSRI BIN ABD NASIR**

SESI II
TARIKH: 5/9/2022 (ISNIN)
MASA: 2.00 – 5.00 PETANG

NO	PAPER ID	TAJUK	NAMA PEMBENTANG	INSTITUSI
1	CIE-TVET 2022-0026	KAJIAN TINDAKAN: BENGKEL 'SMART' DALAM MENINGKATKAN PENGETAHUAN DAN KEMAHIRAN PENGHASILAN LAPORAN CASE STUDY	SITI JANARIAH JANTAN SITI NOOR OTHMAN NORHASLIZA ABDULLAH	POLITEKNIK SULTAN AZLAN SHAH
2	CIE-TVET 2022-0027	MEDICAL ELECTRONIC DEVICE PARAMOUNT SAFETY A HYBRID ELECTRONIC BOOK: EFFECTIVENESS FOR STUDENTS	MARIANA ROSDI KU LEE CHIN RUSNANI YAHYA	PSA
3	CIE-TVET 2022-0028	CABARAN PELAJAR DIPLOMA KEJURUTERAAN AWAM SEMESTER DUA DI POLITEKNIK SULTAN HJ AHMAD SHAH MELALUI KAEDAH PEMBELAJARAN ATAS TALIAN	LIANA ABDUL SAMAT	POLISAS
4	CIE-TVET 2022-0032	PANDEMIK COVID-19: KESAN PEMBELAJARAN ATAS TALIAN TERHADAP KEMAHIRAN PSIKOMOTOR DALAM MAKMAL KEJURUTERAAN MEKANIKAL	NOOR HAZNIDA BAKAR NURAZLINDA YAHYA@MUHAMMED	PSA
5	CIE-TVET 2022-0040	IOT-BASED FLOOD DETECTION AND EARLIER WARNING SYSTEM	PRAVIIN BASKER NUR ATHIRAH ZAKIRAH AZIZAN NUR FARWIZA ALIA IZZUDIN KANNAN RASSIAH	POLITEKNIK MELAKA

SENARAI JAWATANKUASA INDUK

Penaung
Ts. Zainab binti Ahmad

Penasihat Bersama
Dr. Zubaidah binti Aman
Dr. Ishak bin Mohamad
Dr. Hj Mohd Zahari bin Ismail

Pengerusi Bersama
Dr. Saifuddin Kumar bin Abdullah
Ts. Roseman bin Mat Jidin @ Jidin
En. Muhamad Hashim bin Ahmad

Timbalan Pengerusi
Dr Hjh Wan Rosemehah binti Wan Omar

SENARAI JAWATANKUASA PELAKSANA

Pengarah Program
Dr. Siti Khalijah Binti Jamal

Setiausaha
Nur Zahirah binti Mohd Ghazali
Noor Hasniza binti Mat Salleh

Bendahari
Dr. Noordini binti Abdullah (K)
Khasniza binti Abdul Karim
Rosamiza binti Meor Razak
Rahimawati binti Muhamad Yusoff

Floor Manager
Ts. Dr. Norani binti Abd. Karim (K)
Rabeah Adawiyah Binti Hashim
Md Alimi Bin Yasinan @ Jasman
Skh Muhammad Bin Skh Abd Rahim
Mariana Binti Rosdi

Jawatankuasa Grafik dan Multimedia
Mohammad Fahmy bin Ibrahim (K)
Mohd Hanif Bin Selamat

Jawatankuasa Laman Web Program, Hebahan dan Promosi
Dr. Parameswari A/P Shunmugam (K)
Halimaton Saadiah binti Sa'don
Norhayati Binti Ahmad Alwi
Nurul Fazilah Binti Samuri
Murusinida Binti Che Mood
Zaid bin Junus
Noor Zahilah binti Rapal
Nur Shahafiza binti Din
Shazrina binti Mohamed Isa

Jawatankuasa Pendaftaran Peserta dan Dokumentasi
Dr. Norasiah binti Muhammad (K)
Norsa'aidah Binti Sa'aid
Nurul Izza Binti Redzuan
Nurus Sadiqin Binti Abdul Razak Khan
Shariza Azwin binti Yahaya
Nurfarahaizan Binti Idris

SENARAI JAWATANKUASA PELAKSANA

Jawatankuasa Reviewer

Dr. Murugadas A/L Ramdas (K)
Ainiza Binti Silim
Pushpalatha a/p Appanaidu
Rahida Binti Ramli
Nurfadillah Binti Ahmad Mahmud
Hasni Binti Hashim
Mazwina Hanim Binti Abu Bakar
Azma Husnaiza Binti Abdul Aziz
Lilis Seri Yana Binti Sirun
Norsyila Binti Rashid
Julianti Binti Samsudin
Khasniza Binti Abd Karim
Norlela Binti Zaman
Maziharita Binti Mohamood
Norfaizah Binti Abas
Shareh @ Shareaha Binti Din

Jawatankuasa Panel Penilai dan Anugerah

Dr. Aziam binti Mustafa
Suria Binti Md. Yusof
Siti Aishah Binti Ab Jalil
Nor Laila Binti Hassan
Siti Mahanum Binti Shaik Ismail
Siti Rawaidah Binti Mohd Razikin
Haryanti Binti Abdullah
Zakiah Binti Othman
Sarimah Binti Che Hassan

Jawatankuasa Teknikal Persediaan Platform dan Moderator

Ts. Ilya binti Ismail (K)
Hjh Salizahanim binti Leman
Nagaajothi a/p Adin Naraina
Siti Hasliana binti Thalji

SENARAI JAWATANKUASA PELAKSANA

Jawatankuasa Penerbitan dan Dokumentasi
Ts. Dr. Ainul Haezah binti Noruzman (K)
Yusnita binti Yusof
Dr. Siti Anizah binti Muhamed
Muhammad Afiq Faisal bin Muhammad Ilias
Mohd Firdaus bin Sedet

Jawatankuasa Buku Program
Atikah Fatma binti Md Daud (K)
Noraini binti Hj Naseran

Jawatankuasa Sijil dan Cenderahati
Fariza binti Zahari (K)
Nor Khairul Aina binti Mat Din
Nur Syafiqah Abdullah @ Winnie Itom @ Marc
Mariana binti Rosdi

Jawatankuasa Protokol dan Media
Herlina Ainizawati binti Zakaria (K)
Ts. Salhana binti Sahidin @ Salehudin
Siti Zaliha binti Omar @ Othman
Norbaiti binti Ridzuan

Jawatankuasa Teks Ucapan dan Kata Aluan
Noor Haznida binti Bakar (K)
Ts. Wan majdah binti Ton Mamat
Nurazlinda binti Yahya

Jawatankuasa Majlis Pelancaran dan Jamuan
Siti Nurul Huda binti Romli (K)
Sarizun binti Mohamad Sidek
Diana Malini binti Jarni
Rabiatul Adawiyah binti Rosli
Aliza binti Md Atan
Norasiah binti Ali

Jawatankuasa Pengacaraan Majlis
Aliza binti Abdul Razak (K)
Muhammad Safwan bin Abdullan
Siti Rawaidah binti Mohd Razikin

Jawatankuasa Persiapan Tempat Majlis Pelancaran
Tn. Hj. Jasni bin Mohd Noor
Mohd Hafizi bin Hashim

NOTA

NOTA

12th National Conference in Technical Education and Vocational Training (CiE-TVET) 2022