

Department of Electrical Engineering

**DEC 50132 – INTERNET BASED CONTROLLER**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PROGRAMME** | | **:** | | **DET4C** | | | |
| **PRACTICAL WORK NO** | | **:** | | **2** | | | |
| **TITLE** | | **:** | | **SENSOR APPLICATION AND ACTUATORS** | | | |
| **DATE** | | **:** | | **26/2/2024** | | | |
| **LECTURER NAME** | | **:** | | **MOHD LUTFI BIN MOHD KHIDIR** | | | |
|  | |  | |  | | | |
| **PRACTICAL SKILL ASSESSMENT**  **[CLO2, PLO5, P4]** | | **ATTAINMENT** | | | **LAB REPORT ASSESSMENT** | **ATTAINMENT** | |
| Able to connect the circuit independently. | | S1 |       | | **Results**  **Discussion**  **Conclusion** |                     | |
| S2 |       | |
| S3 |       | |
| S4 |       | |
| Able to identify relevant pin and suitable identifier/ variable independently. | | S1 |       | |
| S2 |       | |
| S3 |       | |
| S4 |       | |
| Able to code independently. | | S1 |       | | **Score (30)** |  | |
| S2 |       | |
| S3 |       | |
| S4 |       | |
| **Score (30)** | | S1 |  | | **Percentage (30%)** |  | |
| S2 |  | |
| S3 |  | |
| S4 |  | |
| **Percentage (70%)** | | S1 |  | | **Total CA Marks (100%)** | S1 |  |
| S2 |  | | S2 |  |
| S3 |  | | S3 |  |
| S4 |  | | S4 |  |
| **BIL** | **GROUP MEMBERS** | | | | **REGISTRATION NO.** | | |
| S1 | chong kheng chen | | | | 03DET22F1043 | | |
| S2 |  | | | |  | | |
| S3 |  | | | |  | | |
| S4 |  | | | |  | | |

**PRACTICAL SKILL RUBRIC (PLO2,LD2)**

|  |  |
| --- | --- |
| **Score** | **Description** |
| 10 | Student can **complete all** tasks assigned **WITHOUT** errors/ supervision |
| 8 | Student can **complete all** tasks assigned with **A FEW** errors/ supervision |
| 6 | Student can **complete all** tasks assigned with **MORE** errors / supervision |
| 4 | Student can **complete partial** tasks assigned **WITHOUT** errors / supervision |
| 2 | Student can **complete partial** tasks assigned with **A FEW** errors / supervision |
| 0 | Student shows no response/task not attempted |

**LAB REPORT RUBRIC**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report Component (PLO2,LD2)** | **Excellent** | **Very Good** | **Good** | **Fair** | **Unsatisfactory** |
| **5** | **4** | **3** | **2** | **1** |
| **Results**  • Results in the form of data, calculation, waveform, graph etc. | Professional looking and accurate representation of the data in tables and/or graphs. Graphs and tables are labeled and titled. | Accurate representation of the data in tables and/or graphs. | Accurate representations of the data in written form, but no graphs or tables are presented. | Incomplete result, major mistakes. | Data are not shown OR are inaccurate. |
| **Analysis/ Discussion**  • Ability to present, interpret and analyze result. | All point of discussion on the results obtained covered and elaborated. | Most points of discussion on results obtained covered and elaborated. | Some points of discussion on results obtained covered and elaborated. | Some points of discussion on results obtained covered and but not properly elaborated. | Very few points of discussion, not properly elaborated. |
| **Conclusion** • Provide answers to  objectives stated  earlier. • Ability to learn  something from the experiment. | Conclusion includes whether the findings supported the hypothesis, possible sources of error, and what was learned from the experiment. | The closing paragraph summarizes and draws a sufficient conclusion. | The closing paragraph attempts to summarize but draws a weak conclusion. | The closing paragraph do not attempts to summarize the experiment OR shows little effort and reflection. | No conclusion was included in the report. |

**Practical Work 2**

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| --- |
| **SENSOR APPLICATION AND ACTUATORS** |
| 1. Write the observed result in Table 2A.   TABLE 2A   |  |  |  | | --- | --- | --- | | Switch/ Push Button Condition | LED | Serial Monitor | | Pressed | ON | 3V | | Released | OFF | 0V |  1. Write the observed result in **Table 2**.   **Result:**   |  |  |  | | --- | --- | --- | | **Position Potentiometer** | **LED3, LED2, LED1** | **Volt / ADC Signal** | | Minimum | OFF , OFF, ON | 0.03V | | Medium | OFF, ON, OFF | 1.05V | | Maximum | ON, OFF, OFF | 2.59V |   **Discussion:**  Write your discussion on observed result.  PART A        PART B          **PART C**                **Conclusion:**  Write your conclusion on this practical work.  In conclusion, i have learned to install and set up the Arduino IDE for the ESP32 board. They can now connect simple hardware, write code, and test it successfully. This hands-on experience boosts their understanding of working with microcontrollers and prepares them for more advanced projects. The practical work enhances troubleshooting skills and lays a solid foundation for future exploration in embedded systems . |