**Mobile Technology Assignment – Individual (20%)**

This assignment evaluates students on:

**CLO2 / LO2**

1. Build mobile applications with mobile technology, principles, design techniques, and development tools. (CLO2)
2. Practical skills (LO2)

**INSTRUCTIONS:**

Students are required to build an Android application based on the given task:

Develop a mobile application for estimating electricity bills.

The input expected for the application are:

1. The number of electricity unit used (kWh)
2. Rebate percentage (0% – 5%)

The electricity units are charged based on the block used. Refer to the table for the rate.

|  |  |
| --- | --- |
| Block | Charges (sen/kWh) |
| For the first 200 kWh (1 - 200 kWh) per month | 21.8 |
| For the next 100 kWh (201 - 300 kWh) per month | 33.4 |
| For the next 300 kWh (301 - 600 kWh) per month | 51.6 |
| For the next 300 kWh (601 - *900* kWh) per month onwards | 54.6 |

Please refer to the sample calculations for the expected output.

**Sample calculations:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit used** | **Blocks** | **Charges** | **Total Charges** |
| 150 kwh | 1 block of 150kwh | 150 \* 0.218 = 32 | **RM 32** |
| 250 kwh | 1 block of 200 = 200  1 block of next 100 == 50 | 200 \* 0.218 = 43.6  50 \* 0.334 = 16.7 | **RM 60.3** |
| 467 kwH | 1 block of 200 = 200  1 block of next 100 =  100  1 block of next 300  (467 – 200 – 100 ) = 167 | 200 \*0.218 = 43.6  100 \* 0.334 = 33.4  167 \* 0.516 = 86.172 | **RM 163.172** |
| 551 | 1 block of 200 = 200  1 block of next 100 =  100  1 block of next 300 =  (551 – 200 – 100) = 251 | 200 \*0.218 = 43.6  100 \* 0.334 = 33.4  251 \* 0.516 = 129.516 | **RM 206.516** |
| 115 | First 200 block = 115 | 115 \* 0.218 = 25.07 | **RM 25.07** |

The final cost should be deducted by rebate percentage, for example :

Final cost = Total charges - ( total charges \* rebate %)

= RM32 – (32 \* 0.05)

= **RM 30.4**

**EVALUATION:**

All applications must have customization in colors, application name in title bar, and unique icons. The source code of the application must be uploaded to GitHub – <https://github.com>

The details of the students/authors (Group, Student Number, Programme Code) must be submitted in the e-learning system as well as the About page.

The application also must include the about page which lists developers’ details, information, copyright statement and include a clickable URL of the application website – you can use your application Github page as website URL.

The students are required to demonstrate the application in YouTube videos emphasizing the elements listed in the rubrics.

Rubrics for marks:

1. Input (6 marks)
2. Output (6 marks)
3. Customizations (themes, title bar, icons) (6 marks)
4. About Page with details and clickable URL (6 marks)
5. Good Design Practice (Error message, helpful notice, and instructions) (6 marks)

The marks will be given based on your demonstration and explanation on YouTube Video.