



UTM
UNIVERSITI
TEKNOLOGI MALAYSIA

Sekolah Pendidikan
Profesional dan
Pendidikan Berterusan
(SPACE)

**JABATAN KEJURUTERAAN ELEKTRIK
PUSAT PENGAJIAN DIPLOMA (PPD), SPACE
UNIVERSITI TEKNOLOGI MALAYSIA
KUALA LUMPUR**

**DDWE 3711 ELECTRICAL ENGINEERING
LABORATORY
(DIGITAL INTERFACING)**

**REPORT SHEET 1
MEMORY**

| | |
|----------------------|----|
| Group members | 1. |
| | 2. |
| | 3. |
| Lecturer | : |
| Date | : |

| No. | PO | CO | Student marks | Marks |
|--------------------|-----|-----|---------------|-------------|
| 1 | PO1 | CO4 | | 50% |
| 2 | PO2 | CO4 | | 30% |
| 3 | PO4 | CO4 | | 10% |
| 4 | PO8 | CO4 | | 10% |
| Total marks | | | | 100% |

EXPERIMENT 2: MEMORY

RESULT

PART A. One Memory Bit SRAM

| CS | W | D _{IN} | Q | D _{OUT} |
|----|---|-----------------|---|------------------|
| 1 | 1 | 0 | | |
| 1 | 1 | 1 | | |
| 0 | 1 | 0 | | |
| 0 | 1 | 1 | | |
| 1 | 0 | 0 | | |
| 1 | 0 | 1 | | |
| 0 | 0 | 0 | | |
| 0 | 0 | 1 | | |

Table 1

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 8 m |
|-----|-----|-------------|

Explain the operation of the circuit in **Figure 1** based on the result of **Table 1**.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 5 m |
|-----|-----|-------------|

Give your conclusion based on experiment of **PART A**

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 6 m |
|-----|-----|-------------|

PART B. RAM

| Steps | SW2 | SW1 | SW _{A3} | SW _{A2} | SW _{A1} | SW _{A0} | SW _{D4} | SW _{D3} | SW _{D2} | SW _{D1} | LED ₄ | LED ₃ | LED ₂ | LED ₁ | State the operation (Write or Read) | State the address in Hexadecimal |
|---------|-------------------|-----|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------------------------|----------------------------------|
| Step-1 | Press and release | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | | | | | | |
| Step-2 | Press and release | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | | | | | | |
| Step-3 | Press and release | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | | | | | | |
| Step-4 | Press and release | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | | | | | | |
| Step-5 | Press and release | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | | | | | | |
| Step-6 | Press and release | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| Step-7 | Press and release | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | | | | | | |
| Step-8 | Press and release | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| Step-9 | Press and release | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | | |
| Step-10 | Press and release | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | | | | | | |
| Step-11 | Press and release | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | | | | | | |
| Step-12 | Press and release | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | | | | | | |
| Step-13 | Press and release | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | | | | | | |
| Step-14 | Press and release | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| Step-15 | Press and release | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | | | | | | |
| Step-16 | Press and release | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |

Table 2

| | | |
|-----|-----|--------------|
| PO1 | CO4 | / 16 m |
|-----|-----|--------------|

Explain the function of \overline{CS} and \overline{WE} .

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 4 m |
|-----|-----|-------------|

Explain the operation of the circuit in **Figure 2** based on the result of **Table 2**.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 5 m |
|-----|-----|-------------|

Give your conclusion based on experiment of **PART B**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

| | | |
|-----|-----|-------------|
| PO1 | CO4 | / 6 m |
|-----|-----|-------------|

PLO2 (Psychomotor/Hands on Skill)

| Criteria | Very poor (5 Marks) | Poor (10 Marks) | Moderate (15 Marks) | Good (20 Marks) | Excellent (25 Marks) |
|---|---|--|---|--|---|
| Ability to perform lab works based on the manual/ guidelines provided | Not at all | Quite Limited /Selectively | Can perform lab work moderately but require a lot of guidance | Can perform lab work systematically and only need minor guidance | Demonstrate systematic and excellent performances |
| Ability to perform simple lab work without supervision | Need full supervision | Major supervision | Minor supervision | Limited supervision | Work independently With no supervision |
| Ability to carry out lab work efficiently on the following criteria, (circuit assembly, using measurement apparatus and techniques) | Not able to construct a full circuit, poor/inaccurate measurement techniques/usage of equipment | Completed full circuit but poor/inaccurate measurement techniques/usage of equipment | Completed full circuit and it works successfully. However the measurement techniques/usage of equipment had some minor deficiency | Completed full circuit and it works successfully. However the measurement techniques/usage of equipment had produced a few errors/corrections. | Circuit was completed and works properly without any errors /corrections. Also demonstrated an excellent skills/conducts. |
| Ability to collect the required data, performs appropriate analysis and/or troubleshooting (if necessary). | Not able to collect data and/or perform analysis | Limited data collection but not able to perform analysis/ troubleshooting | Demonstrates major errors in data collection and /or analysis. Limited ability in troubleshooting | Minor error in data collection and analysis. Good approach/techniques in troubleshooting. | Data collection and data analysis are done systematically and performs excellent approaches to trouble shoot (if necessary) |

PLO4 for Laboratory Report

| Criteria | VERY POOR (5) | POOR (10) | MODERATE (15) | GOOD (20) | EXCELLENT (25) |
|--|--|--|--|--|---|
| Data Collection | No data reported. | Data is brief and missing significant pieces of information. | Incomplete these of components of data (Both tables and Graphs): <ul style="list-style-type: none"> • _____ Tables • _____ Graphs | Only one component of data is incomplete (either table or graph). <ul style="list-style-type: none"> • Tables/Graphs | Data is completed properly and attributes mentioned below are observed with great care: <ul style="list-style-type: none"> • Tables are easy to read and units are provided. • Graphs are labeled and shown trends. |
| Completing/ Answering Questions | Questions are not answered at all. | Attempts were made but gave wrong answer to every question. | Questions are answered without any depth and with many errors. | Questions are properly answered but with a few errors. | Questions are answered completely and correctly. |
| Summary/ Conclusion | No conclusion or summary is/are drawn/reported | Conclusion is too brief without any reference to important pieces of information | Any two components of the conclusion/summary (mentioned) are missing : <ul style="list-style-type: none"> • Summary • Data • Hypothesis • Errors | Any component of the conclusion /Summary (mentioned) is missing: <ul style="list-style-type: none"> • Summary • Data • Hypothesis • Errors | Conclusion /Summary of these attributes below were addressed/reported properly, clearly and systematically. <ul style="list-style-type: none"> • experiment, • data cited • hypothesis/assumptions made • The source of errors. |
| Report Quality | No attention to detail evident. | Report contains many errors. | Report is good but with few spelling or grammatical errors. | Report is well written and cohesive, with a few errors | Report is very well written without any spelling or grammatical mistakes. |

PLO8

| Criteria | Very poor (5 Marks) | Poor (10 Marks) | Moderate (15 Marks) | Good (20 Marks) | Excellent (25 Marks) |
|---|---------------------------------|---|---|----------------------------|---------------------------------------|
| Professional Practice (Punctuality/Follow the Rules) | Non-Conforming/ Not punctual | Not always Conforming/ Not always punctual | Sometimes Conforming/ Sometimes punctual | Conforming /Punctual | Always Conforming /Always Punctual |
| Ethical Conduct/Behaviour (Trustworthy / Respectfulness) | Does not practice | Not always practicing | Sometimes only | Mostly practicing | Always practicing |
| Social Cultural (Racial Harmony) | Does not observe | Not always observe | Sometimes observe | Mostly observe | Always observe |
| Personality | Mostly unpleasant | Not always pleasant | Moderately pleasant | Mostly pleasant | Always pleasant |