



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 1711 ELECTRICAL ENGINEERING LABORATORY 1
(CIRCUIT THEORY 1)**

**REPORT SHEET 1
SERIES CIRCUITS**

Group members	1.	
	2.	
	3.	
	4.	
	5.	
Lecturer	:	
Date	:	

No.	PO	CO	Student Marks	Marks
1	PO1	CO1		60%
2	PO2	CO2		30%
3	PO8	CO6		10%
Total Marks				/ 100

EXPERIMENT 1 : SERIES CIRCUITS

Part A : Ohm's Law and Kirchhoff's Voltage Law and Voltage Divider Rule.

Step 1 until Step 3

Component	Listed Value (kΩ)	Measured Value (kΩ)
R ₁	1.0	
R ₂	3.3	
R ₃	6.8	

Table 1

Step 4

Calculation of total resistance for series circuit

PO1	CO1 /8m
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Step 5

Diagram of series circuit (Figure 1.1).

PO1	CO1 /6m
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Step 8

Measured current =

Step 9

Calculation of current by using Ohm's Law

PO1	CO1	/8m
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Step 10, Step 11 and Step 13

Voltage	Measured Value	Calculated Value	
	Using multimeter	Ohm's Law $V_x = IR_x$	Voltage Divider $V_x = V_s \frac{R_x}{R_T}$
V_{R1}			
V_{R2}			
V_{R3}			

Table 2

Step 12

Proving the Kirchoffs Voltage Law.

PO1	CO1	/6m
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Conclusion for Part A:

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

PO1	CO1 /10m
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Part B : Design a Voltage Divider

Step 2

Adjusted value of R_L =

PO1	CO1 /6m
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Step 3

Calculation to get the expected value of variable resistor.

PO1	CO1 /6m
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Conclusion for Part B:

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

PO1	CO1 /10m
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Guideline for ethic rubric (PO8):

ETHIC AND PROFESSIONAL MORAL (100 marks)					
Scale :	1 (5marks)	2 (10marks)	3 (15marks)	4 (20marks)	5 (25marks)
Criteria ✓ Understand the economic, environmental and socio-cultural impacts of professional practice	Very Poor	Poor	Moderate	Good	Excellent
A. Professional Practice (Punctuality/Follow the Rules)	Tidak menepati/ Tidak Mematuhi	Kurang menepati/ Kurang mematuhi	Adakala menepati / Adakala mematuhi	Menepati / Mematuhi	Sentiasa menepati / Sentiasa mematuhi
B. Ethical Behavior (Trustworthy / Respectfulness)	Tidak mengamalkan	Kurang mengamalkan	Adakala mengamalkan	Mengamalkan	Sentiasa mengamalkan
C. Social Cultural (Racial Harmony)	Tidak mengamalkan	Kurang mengamalkan	Adakala mengamalkan	Mengamalkan	Sentiasa mengamalkan
D. Sahsiah Rupa Diri	Tidak menepati	Kurang menepati	Adakala menepati	Menepati	Sentiasa menepati

Guideline of practical skill rubric: PO2

Practical skill (100 marks)						
Scale :	1 (5marks)	2 (10marks)	3 (15marks)	4 (20marks)	5 (25marks)	
Criteria ✓ Demonstrate the practical skill	Very Poor	Poor	Moderate	Good	Excellent	Marks
A. Circuit assembly/construction	5	10	15	20	25	
B. Using appropriate measurement equipment and technique	5	10	15	20	25	
C. Troubleshooting skill and technique	5	10	15	20	25	
D. Follow lab regulation	5	10	15	20	25	
	Total marks					