



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

Sekolah Pendidikan  
Profesional dan  
Pendidikan Berterusan  
(SPACE)

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

**ELECTRICAL ENGINEERING LABORATORY 2  
(DDWE 2701)**

**ELECTRONICS 1**

**REPORT SHEET 1**

**RECTIFIER AND CLIPPING CIRCUITS**

<b>Group members</b>	1.
	2.
	3.
	4.
	5.
<b>Lecturer</b>	:
<b>Date</b>	:

No.	PO	CO	Student Marks	Marks
1	PO1	CO1		40%
2	PO2	CO3		50%
3	PO8	CO6		10%
<b>Total Marks</b>				<b>/ 100%</b>

**Part A: Half-Wave Rectifier**

	Measured value (Oscilloscope)	Measured Value (Multimeter)	Calculation
Secondary peak voltage			
Output voltage ( $V_{Opeak}$ )			
DC output voltage			

Table 1

PO1	CO1	.....	/5m
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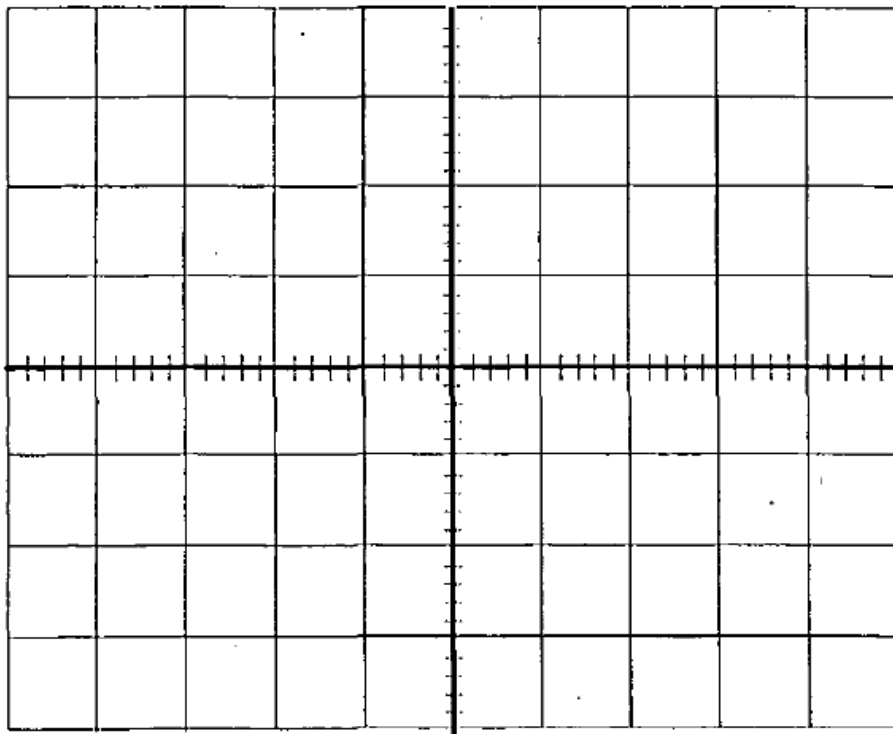
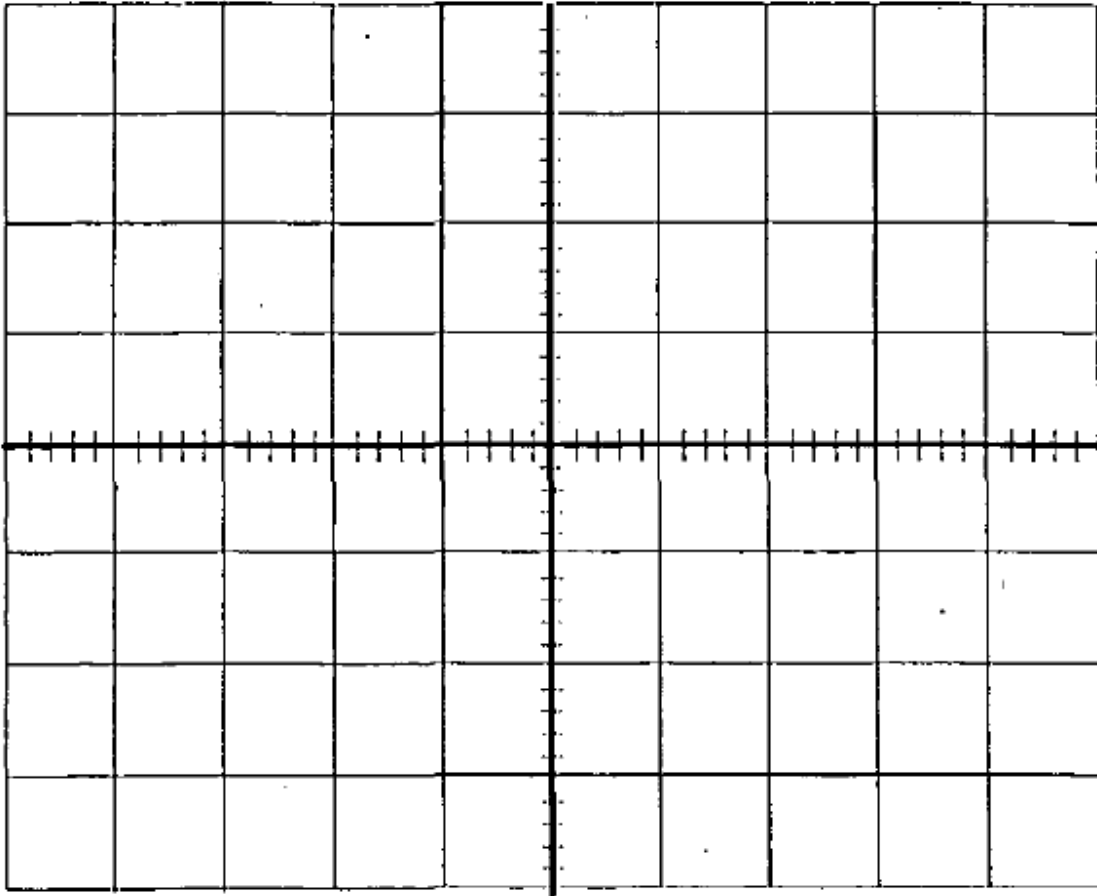


Figure A1

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1	CO1	.....	/5m
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**Figure A2**

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1	CO1	.....	/5m
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**Question**

Compare the results of Figure A1 and A2. What are the major differences and why?

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PO1	CO1	.....	/8m
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**Conclusion:**

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PO1	CO1	.....	/8m
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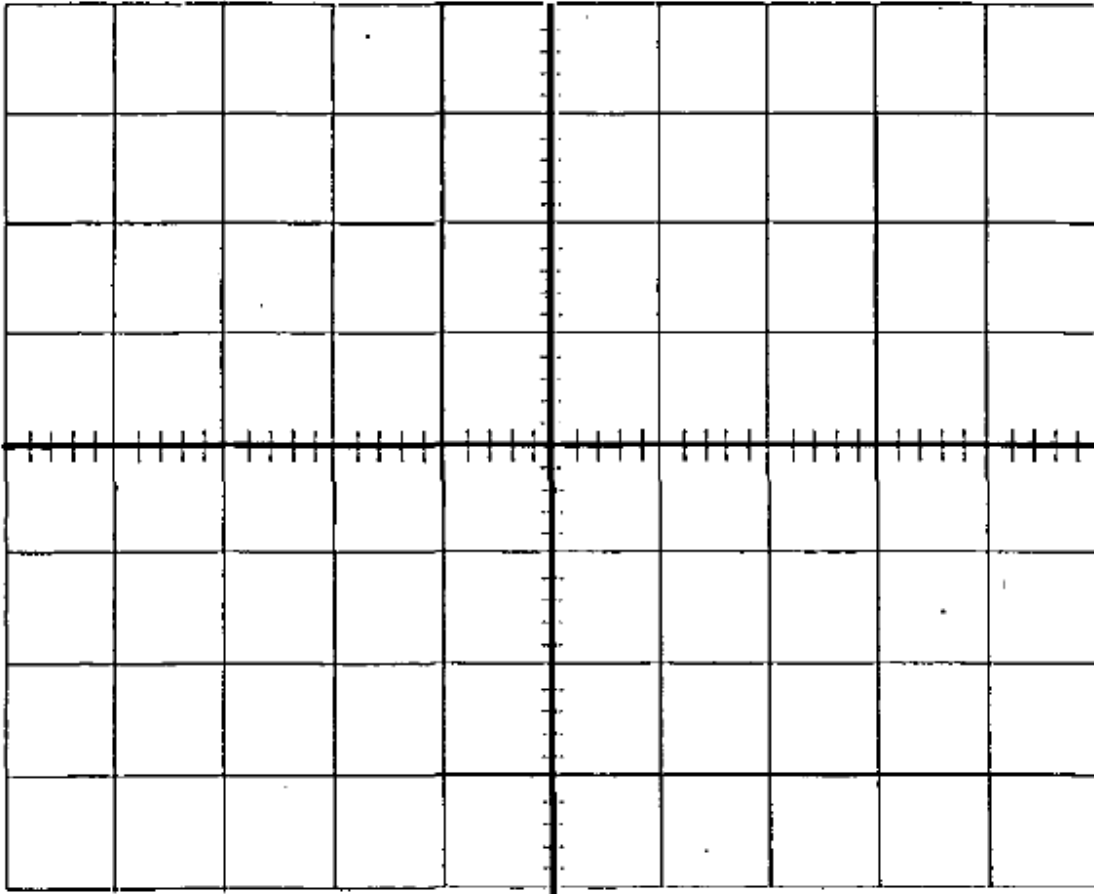
**Part B : Full-Wave Rectifier**

**1. Center-Tapped Network**

	Measured value (oscilloscope)	Measured Value (multimeter)	Calculation
<b>Secondary peak voltage</b>			
<b>Output voltage (<math>V_{Opeak}</math>)</b>			
<b>DC output voltage</b>			

Table 2

PO1	CO1	.....	/5m
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**Figure A3**

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1	CO1	.....	/5m
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**2. BRIDGE NETWORK**

	Measured value (oscilloscope)	Measured Value (multimeter)	Calculation
Secondary peak voltage			
Output voltage ( $V_{Opeak}$ )			
DC output voltage			

Table 3

PO1 CO1 ..... /5m

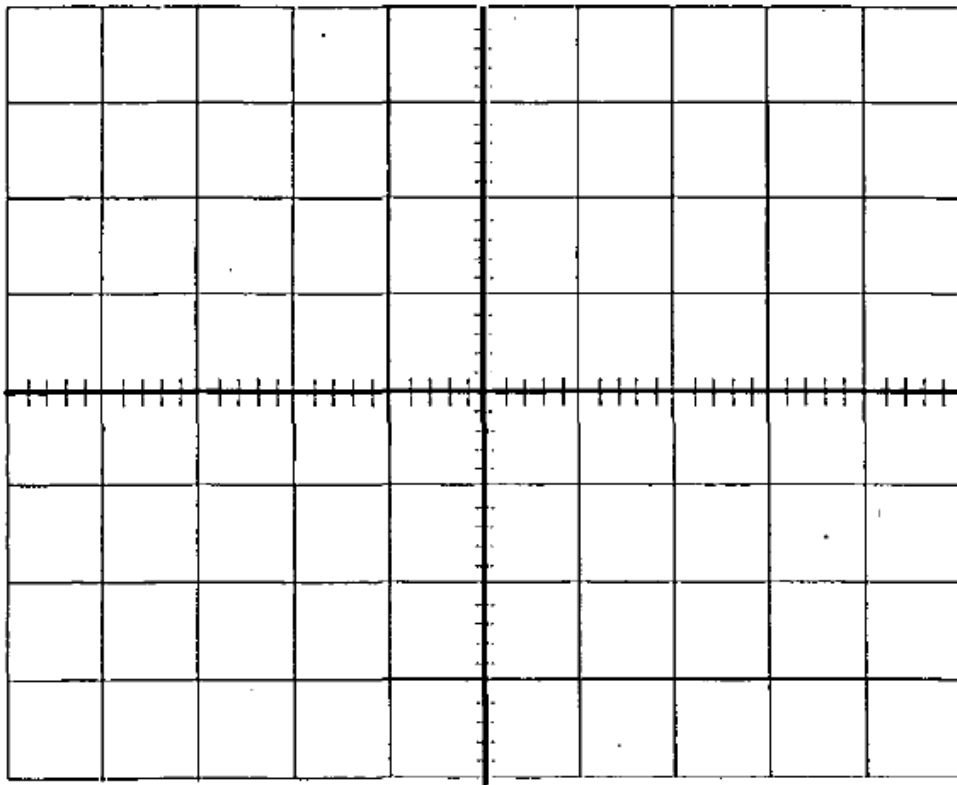


Figure A4

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1 CO1 ..... /5m

**Questions**

The secondary peak voltage for the bridge network (Table 3) is twice the value for the center tapped network (Table 2). Explain.

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<b>PO1</b>	<b>CO1</b>	.....	<b>/8m</b>
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If the secondary peak voltage, for the center-lapped network and the bridge network are equal, would the DC output voltage for both circuits be the same? Give your reason.

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<b>PO1</b>	<b>CO1</b>	.....	<b>/8m</b>
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**Conclusion:**

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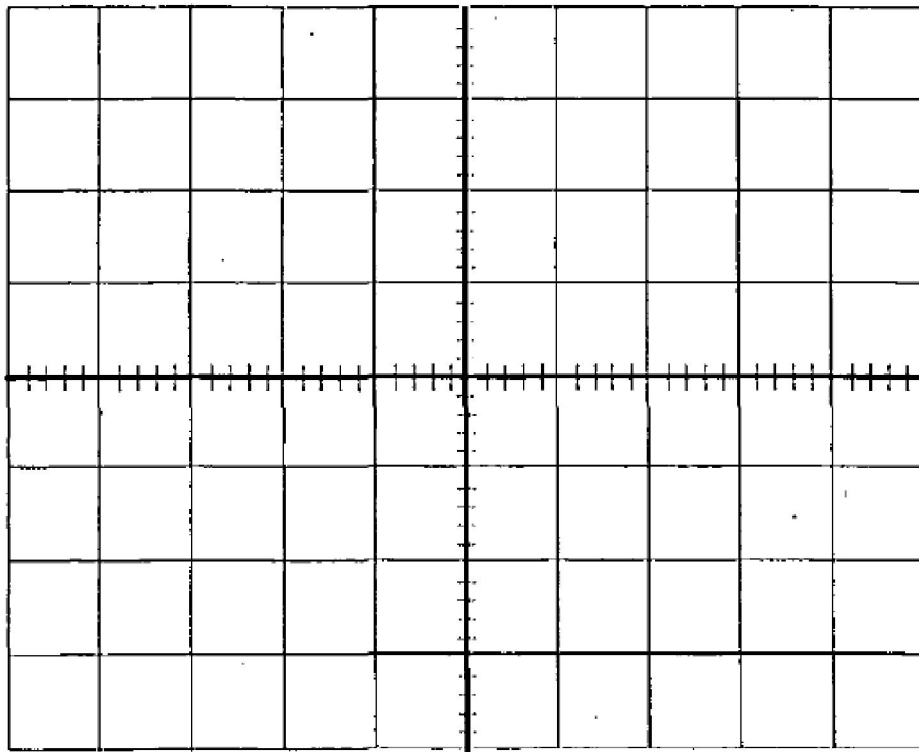
<b>PO1</b>	<b>CO1</b>	.....	<b>/8m</b>
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**Part C: Clipping Circuits**

	Measurement (Oscilloscope)	Calculation
$V_{S\ peak}$ ,(V)		
$V_{Opeak}$ ,(V) (without DC source)		
$V_{Opeak}$ ,(V) (with DC source)		

**Table 4**

PO1	CO1	.....	/5m
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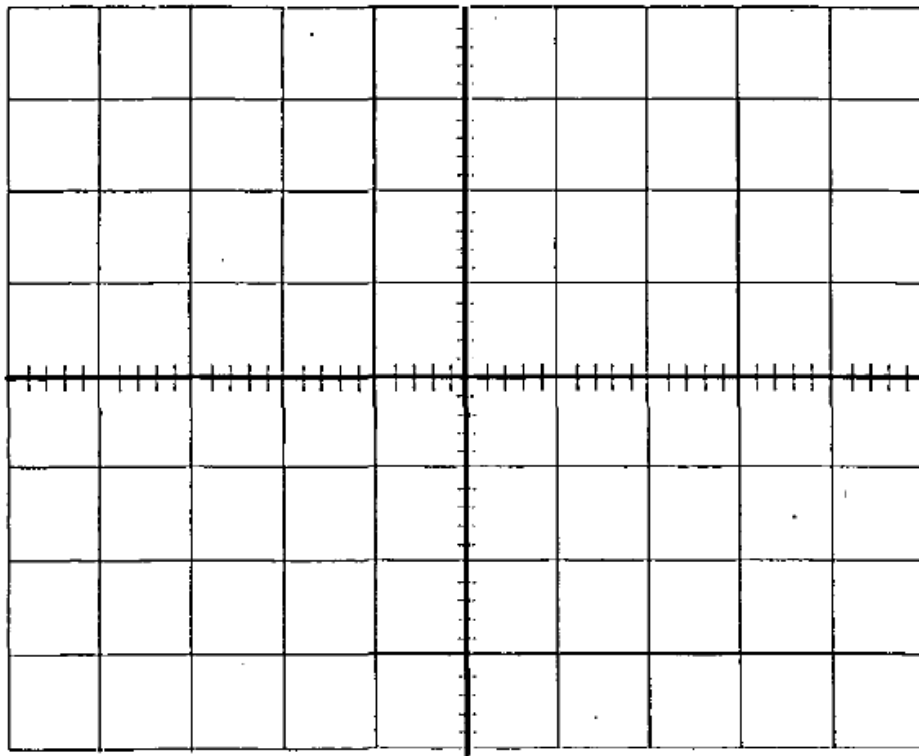


**Figure A5**

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1	CO1	.....	/5m
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**Figure A6**

Channel 1	Channel 2
Time/div :	Time/div :
Volt/div :	Volt/div :

PO1	CO1	.....	/5m
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**Questions**

Compare and discuss the output waveforms in Figure AS and Figure A6. What is the effect of DC voltage?

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PO1	CO1	.....	/5m
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**Conclusion:**

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<b>PO1</b>	<b>CO1</b>	.....	<b>/6m</b>
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**TOTAL MARKS (PO1, CO1) = ..... / 100 marks**

	Marks	PO2	PO8
<b>Group members</b>	1.		
	2.		
	3.		
	4.		
	5.		
<b>Lecturer</b>	:		
<b>Date</b>	:		

**Guideline of practical skill rubric: PO2**

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

**Guideline of ethic rubric: PO8**

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

