Surname

Centre Number

Other Names



GCE A LEVEL

1420U50-1A

PHYSICS – A2 unit 5 Practical Examination

Experimental Task TEST 1

TUESDAY, 24 APRIL 2018

1 hour 30 minutes

 For Teacher's use only

 Award a mark of 0 or 1 for each of the following

 Risk assessment correct – (a)

 Circuit set up correctly – (a)

 For Examiner's use only

 Mark awarded

Total

ADDITIONAL MATERIALS

In addition to this examination paper you will require a calculator and a Data Booklet.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Pencil may be used to draw tables and graphs. Write your name, centre number and candidate number in the spaces at the top of this page. Write your answers in the spaces provided in this booklet.

INFORMATION FOR CANDIDATES

The total number of marks available for this task is 25.

Your teacher will directly assess your practical skills in part (a).

The number of marks is given in brackets at the end of each question or part question.

You are reminded of the necessity for orderly presentation in your answers.

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Answer all questions.

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(a) The relationship between the power, P, and potential difference, V, for a filament lamp can be expressed by:

 $P = kV^n$

where n and k are unknown constants.

Your task is to design and carry out an experiment to determine n and k.

Write a plan of how you will obtain sufficient readings to determine n and k. You will need to include a circuit diagram, risk assessment and state how you will use your results to determine n and k. **Repeat readings are not required.** [8]

Space for risk assessment on next page.

1420U501A 03

Turn over.

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Risk a	assessment	Examiner only	
BEFC CIRC	BEFORE STARTING TO TAKE READINGS ASK YOUR SUPERVISOR TO CHECK THI CIRCUIT AND APPROVE THE RISK ASSESSMENT.		
	results below. State the resolutions of all instruments used. [4]		
•••••			
•••••			
••••••			
•••••			
••••••			

4



(d)	Use your graph to determine values for n and k .	[4]	Examin only
(e)	Write an equation for the relationship between power and potential difference for y filament lamp using your values for n and k .	/our [1]	
(f)	Emily suggests that the same equation that you have written in part (e) will apply the combination of two of these lamps connected in parallel. Discuss whether Em suggestion is correct.	for ily's [4]	

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END OF PAPER

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