

New
Specification



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2017

Centre Number

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Candidate Number

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Environmental Technology

Assessment Unit AS 1

assessing

The Earth's Capacity to Support
Human Activity



SET11

[SET11]

WEDNESDAY 17 MAY, AFTERNOON

TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Complete in black ink only. **Do not write with a gel pen.**

Answer **all** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 75.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Question 7.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	

Total Marks	
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(Questions continue overleaf)

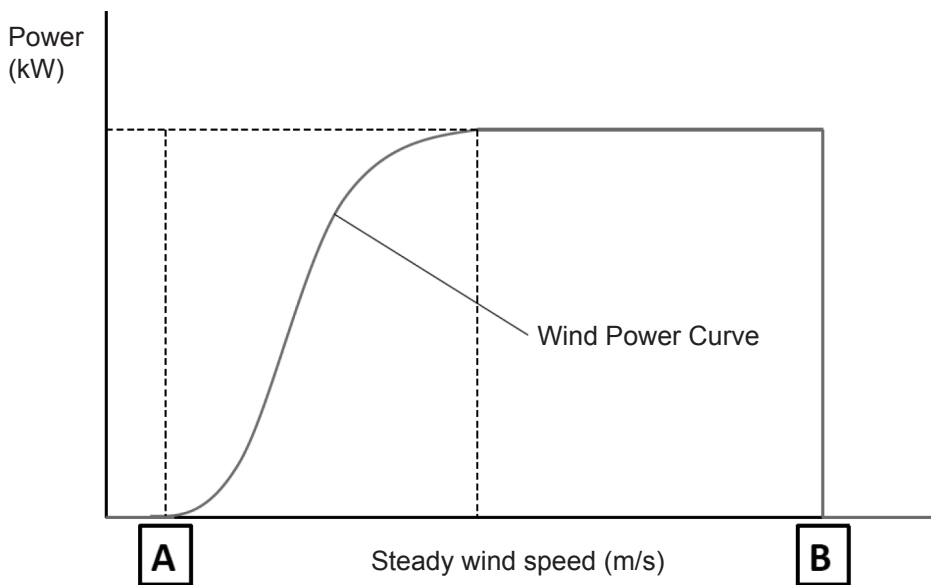
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(Questions continue overleaf)

- (c) Calculate the wind speed required to produce a maximum theoretical energy of 15680 joules from 640 kg of air. Show your working out in the space below.

[3]

- (d) **Fig. 3** below shows a typical wind turbine power curve. Explain the significance of the annotated points **A** and **B** shown on the graph.



Source: Principal Examiner

Fig. 3

A _____

[2]

B _____

[2]

Examiner Only	
Marks	Remark

5 Fig. 4 below shows a schematic diagram of a PV cell.

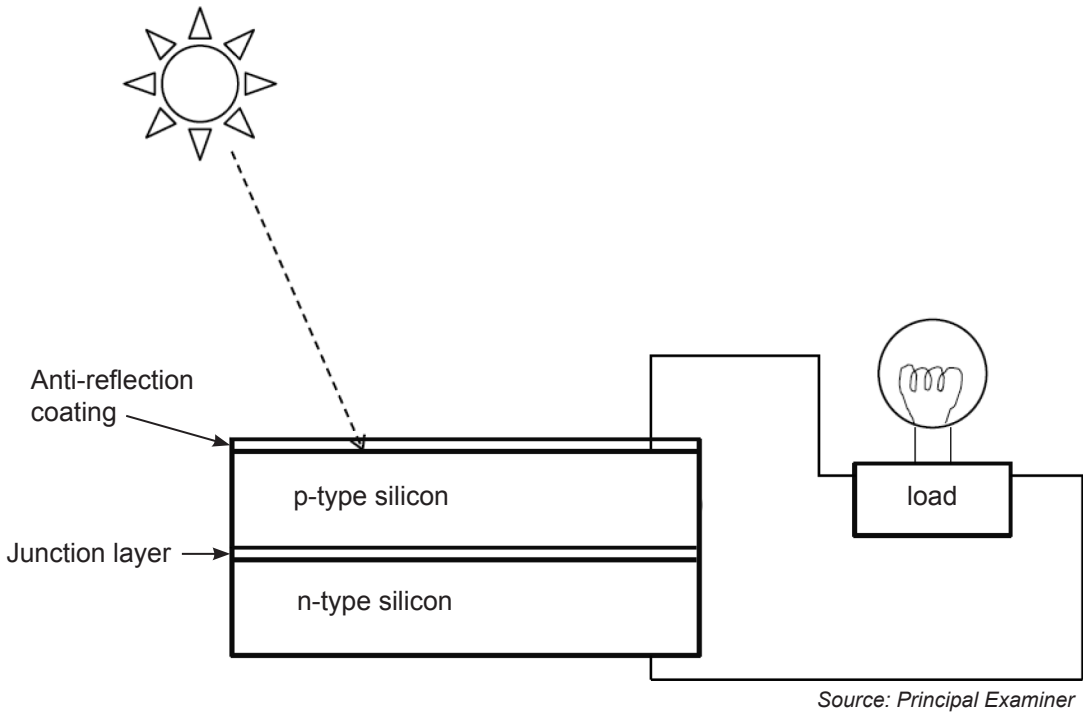


Fig. 4

(a) (i) Explain the purpose of the anti-reflection coating.

_____ [2]

(ii) Explain the operation of the PV cell.

_____ [3]

Examiner Only	
Marks	Remark

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