

# SMART EXAM RESOURCES

## 9701 CAMBRIDGE AS CHEMISTRY TOPIC QUESTIONS AND MARK SCHEMES

### TOPIC :ATOMIC STRUCTURE

### TOPIC:DEDUCE ELECTRONIC CONFIGURATION USING IONISATION ENERGY

### SET-1-QP-MS

- 1** Element **E** is in Period 3 of the Periodic Table.  
The first eight ionisation energy values of **E** are shown in Table 1.1.

**Table 1.1**

ionisation	1st	2nd	3rd	4th	5th	6th	7th	8th
ionisation energy/ $\text{kJ mol}^{-1}$	577	1820	2740	11 600	14 800	18 400	23 400	27 500

Deduce the full electronic configuration of **E**.  
Explain your answer.

full electronic configuration of **E** = .....

explanation .....

.....  
.....

[3]

## MARK SCHEME:

2

1s <sup>2</sup> 2s <sup>2</sup> 2p <sup>6</sup> 3s <sup>2</sup> 3p <sup>1</sup> [1] greatest jump between 3rd and 4th ionisations [1] indicates three electrons in outer shell [1]	3
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