Smart Edu Hub [.in/.com]

CAIE A LEVEL Chemistry Topic Questions / 9701

1.4.6-Deduce-Element-Position-Using-Ionisation-Energy-Data-set-1-qp

Total Questions: 3

Note:

- For questions with answer choices as statements 1, 2 and 3, follow these instructions for selecting options A/B/C/D:
- A= 1, 2 and 3 are correct
- B=1 and 2 only are correct
- C=2 and 3 only are correct
- D=1 only is correct

Questions

Question 1:

Four successive ionisation energies (IE) of element E are shown.

Element E is in Period 3 of the Periodic Table.

fifth IE / kJ mol^{-1}	sixth IE / kJ mol^{-1}	seventh IE / kJ mol^{-1}	eighth IE / kJ mol^{-1}
16 000	20 000	24 000	29 000

In which group of the Periodic Table is E?

A 14 **B** 15 **C** 16 **D** 17

Question 2:

The first six ionisation energies of four elements, **A** to **D**, are given.

Which element is most likely to be in Group IV of the Periodic Table?

ionisation energy / kJ mol^{-1}	1st	2nd	3rd	4th	5th	6th
A	494	4560	6940	9540	13400	16600
B	736	1450	7740	10500	13600	18000
C	1090	2350	4610	6220	37800	47000
D	1400	2860	4590	7480	9400	53200

Question 3:

Use of the Data Booklet is relevant to this question.

From which particle is the removal of an electron the most difficult?

A $Cl^-(g)$ **B** $F^-(g)$ **C** $K^+(g)$ **D** $Na^+(g)$