Practice Question Set For A-Level
Subject : Chemistry
Paper-1 Topic: Physical 1

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Name of the Student:_____
Max. Marks : 10 Marks **Time : 10 Minutes**

Q1.

Which element has the highest third ionisation energy?

A Li ⬭
B Be ⬭
C K ⬭
D Ca ⬭

(Total 1 mark)

Q2.

Which row shows the number of each fundamental particle in one $^{25}Mg^{2+}$ ion?

	protons	neutrons	electrons	
A	12	12	10	⬭
B	14	11	12	⬭
C	12	13	10	⬭
D	12	13	12	⬭

(Total 1 mark)

Q3.

Which atom in the ground state contains at least one unpaired p electron?

A Na ⬭
B Ne ⬭
C O ⬭
D Sc ⬭

(Total 1 mark)

Q4.

Which ionisation needs less energy than this process?

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$Mg(g) \rightarrow Mg^{+}(g) + e^{-}$

A $Al(g) \rightarrow Al^{+}(g) + e^{-}$ ⬭

B $Ar(g) \rightarrow Ar^{+}(g) + e^{-}$ ⬭

C $Be(g) \rightarrow Be^{+}(g) + e^{-}$ ⬭

D $Mg^{+}(g) \rightarrow Mg^{2+}(g) + e^{-}$ ⬭

(Total 1 mark)

Q5.

Which atom has the greatest first ionisation energy?

A H ⬭

B He ⬭

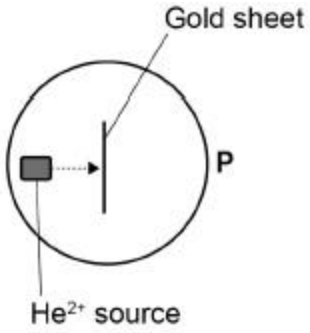
C Li ⬭

D Ne ⬭

(Total 1 mark)

Q6.

In the early twentieth century the apparatus shown in the diagram was used to investigate atomic structure. When He^{2+} particles were fired at a thin sheet of gold, most of the particles were detected at point **P**.



What conclusion can be drawn from the detection of He^{2+} particles at point **P**?

A Gold atoms contain electrons. ⬭

B Gold atoms contain protons. ⬭

C Gold atoms contain neutrons. ⬭

D Gold atoms are mainly empty space. ⬭

(Total 1 mark)

Q7.

When He^{2+} particles were fired at a thin sheet of gold, about 1 in 8000 of the particles were detected at point **Q**.

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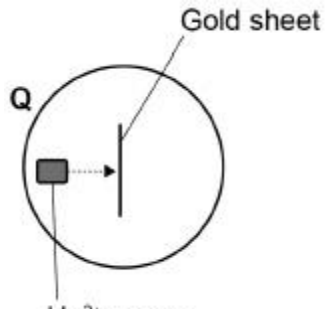

What conclusion can be drawn from the detection of He^{2+} particles at point **Q**?

A Gold atoms have a small, positive nucleus. ⬭

B Gold atoms have electrons in orbitals. ⬭

C Gold consists of ions in a sea of delocalised electrons. ⬭

D Gold atoms have more protons than He^{2+} particles. ⬭

(Total 1 mark)

Q8.

What is the electron configuration of Cu^{2+}?

A $[Ar]3d^9 4s^2$ ⬭

B $[Ar]3d^{10} 4s^1$ ⬭

C $[Ar]3d^9$ ⬭

D $[Ar]3d^{10}$ ⬭

(Total 1 mark)

Q9.

Which one of the following statements is **not** correct?

A The first ionisation energy of iron is greater than its second ionisation energy.

B The magnitude of the lattice enthalpy of magnesium oxide is greater than that of barium oxide.

C The oxidation state of iron in $[Fe(CN)_6]^{3-}$ is greater than the oxidation state of copper in $[CuCl_2]^-$

D The boiling point of C_3H_8 is lower than that of CH_3CH_2OH

(Total 1 mark)

Q10.

Which has the electron configuration of a noble gas?

A H^+ ⬭

B O^- ⬭

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C Se^{2-} ⬭

D Zn^{2+} ⬭

(Total 1 mark)

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