ALBERTA PHYSICS 30 · UNIT B · 5 QUESTIONS

Forces & Fields — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A long straight open country road stretching to the horizon through flat farmland, vanishing point in the distance, blue sky with a few clouds, no people, no cars. Two point charges are separated by a distance of 0.10 m and exert an electric force of magnitude 0.90 N on each other. One charge is 2.0×10^{-6} C. The magnitude of the other charge is**



A 0.25×10^{-6} C

B 0.50×10^{-6} C

C 2.0×10^{-6} C

D 5.0×10^{-6} C

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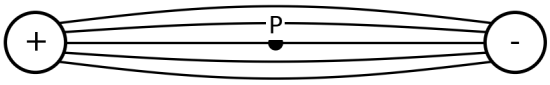
2 **The diagram shows two charged spheres and point P between them. The electric field at point P is directed**



A toward the right side of the page

B toward the left side of the page

C out of the page

D into the page

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3 The electric field strength between two parallel plates is 4.0×10^{2} N/C, and the plates are separated by a distance of 5.0 cm. The electric potential difference between the plates is

A 8.0 V

B 80 V

C 20 V

D 8.0×10^{3} V

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4 An alpha particle ($q = 3.20 \times 10^{-19}$ C) is accelerated from rest through an electric potential difference of 500 V. The kinetic energy gained by the alpha particle, expressed in units of 10^{-16} J and to three significant digits, is

ANSWER _____

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5 **An electron moves toward the top of the page through a magnetic field directed out of the page. The direction of the magnetic force on the electron is**

A toward the right side of the page

B toward the top of the page

C toward the left side of the page

D toward the bottom of the page

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ANSWER KEY

1. B
2. A
3. C
4. 1.6
5. C

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