L.2 Magnetism & Electromagnetism

Practice Worksheet — name: _____ date: _____

SECTION A — MULTIPLE CHOICE

A1. Which of the following will increase the strength of an electromagnet?

- (A) Decreasing the current
- (B) Using fewer coils
- (C) Inserting an iron core
- (D) Using a wooden core

A2. What rule is used to determine the direction of the force on a current-carrying conductor in a magnetic field?

- (A) Ohm's law
- (B) Right-hand grip rule
- (C) Fleming's left-hand rule
- (D) Hooke's law

SECTION B — SHORT ANSWER

B1. Describe how you could make a simple electromagnet.

B2. Explain why an alternating current in a coil is necessary for a transformer to work.

ANSWER KEY

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Section A

A1: Inserting an iron core

A2: Fleming's left-hand rule

Section B

B1: Wrap a coil of insulated wire around an iron nail, connect the ends to a battery. When current flows, the nail becomes magnetised.

B2: A changing current produces a changing magnetic field, which induces a voltage in a secondary coil via electromagnetic induction. A steady DC current would not produce a changing field, so no voltage would be induced.