A.2 Applications & Nuclear Energy

Practice Worksheet — name: _____ date: _____

SECTION A — MULTIPLE CHOICE

A1. Which process powers the Sun?

- (A) Nuclear fission
- (B) Nuclear fusion
- (C) Chemical combustion
- (D) Radioactive decay

A2. Why is a radioactive tracer used in medicine?

- (A) It kills cancer cells
- (B) It can be tracked to monitor organ function
- (C) It strengthens bones
- (D) It improves blood circulation

SECTION B — SHORT ANSWER

B1. Distinguish between nuclear fission and fusion.

B2. Give one medical use of gamma rays and explain why their properties are suitable.

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ANSWER KEY

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Section A

A1: Nuclear fusion

A2: It can be tracked to monitor organ function

Section B

B1: Fission is the splitting of a heavy nucleus into two lighter nuclei, releasing energy. Fusion is the joining of two light nuclei to form a heavier nucleus, also releasing energy.

B2: Gamma rays are used to sterilise surgical equipment because they are highly penetrating and kill bacteria without making the equipment radioactive.