

It is a popular misconception that nuclear fusion power is free of radioactivity; in fact, the deuterium-tritium reaction that nuclear scientists are currently exploring with such zeal produces both alpha particles and neutrons. (The neutrons are used to produce tritium from a lithium blanket surrounding the reactor.) Another common misconception is that nuclear fusion power is a virtually unlimited source of energy because of the enormous quantity of deuterium in the sea. Actually, its limits are set by the amount of available lithium, which is about as plentiful as uranium in the Earth's crust. Research should certainly continue on controlled nuclear fusion, but no energy program should be premised on its existence until it has proven practical. For the immediate future, we must continue to use hydroelectric power, nuclear fission, and fossil fuels to meet our energy needs. The energy sources already in major use are in major use for good reason.

1. The primary purpose of the passage is to
 - (A) criticize scientists who believe that the deuterium-tritium fusion reaction can be made feasible as an energy source
 - (B) admonish scientists who have failed to correctly calculate the amount of lithium available for use in nuclear fusion reactors
 - (C) defend the continued short-term use of fossil fuels as a major energy source
 - (D) caution against uncritical embrace of nuclear fusion power as a major energy source
 - (E) correct the misconception that nuclear fusion power is entirely free of radioactivity
2. It can be inferred from the passage that the author believes which of the following about the current state of public awareness concerning nuclear fusion power?
 - (A) The public has been deliberately misinformed about the advantages and disadvantages of nuclear fusion power.
 - (B) The public is unaware of the principal advantage of nuclear fusion over nuclear fission as an energy source.
 - (C) The public's awareness of the scientific facts concerning nuclear fusion power is somewhat distorted and incomplete.
 - (D) The public is not interested in increasing its awareness of the advantages and disadvantages of nuclear fusion power.
 - (E) The public is aware of the disadvantages of nuclear fusion power but not of its advantages.
3. The passage provides information that would answer which of the following questions?
 - (A) What is likely to be the principal source of deuterium for nuclear fusion power?
 - (B) How much incidental radiation is produced in the deuterium tritium fusion reaction?
 - (C) Why are scientists exploring the deuterium-tritium fusion reaction with such zeal?
 - (D) Why must the tritium for nuclear fusion be synthesized from lithium?
 - (E) Why does the deuterium-tritium reaction yield both alpha particles and neutrons?

4. Which of the following statements concerning nuclear scientists is most directly suggested in the passage?
- (A) Nuclear scientists are not themselves aware of all of the facts surrounding the deuterium-tritium fusion reaction.
 - (B) Nuclear scientists exploring the deuterium-tritium reaction have overlooked key facts in their eagerness to prove nuclear fusion practical.
 - (C) Nuclear scientists may have overestimated the amount of lithium actually available in the Earth's crust.
 - (D) Nuclear scientists have not been entirely dispassionate in their investigation of the deuterium-tritium reaction.
 - (E) Nuclear scientists have insufficiently investigated the lithium-to-tritium reaction in nuclear fusion.