

AP Environmental Science: Unit – 6 - Energy Resources and Consumption Practice Test

Question 1

What is geothermal energy?

- A. energy of moving water
- B. wind energy
- C. nuclear energy
- D. heat energy from below Earth's surface

Question 2

**Under normal circumstances, which kind of fuel does NOT pollute the air?**

- A. coal
- B. oil
- C. natural gas
- D. nuclear

Question 3

Which is (are) true about wind energy?

- A. It is less expensive than fossil fuels.
- B. It is difficult to utilize in areas with low wind availability.
- C. It is a renewable source of energy.
- D. It utilizes small or large areas of land not previously used.

Question 4

The largest renewable source of electricity generation in the United States is

- A. Wind
- B. Solar
- C. Biomass
- D. Geothermal
- E. Hydroelectric

Question 5

Which country has the greatest number of nuclear power plants on a per capita basis?

- A. England
- B. United States
- C. Spain
- D. Japan
- E. France

Question 6

Which of the following pairs is the predominant source of fuel for electricity generation in the United States?

- A. Natural Gas and Oil
- B. Oil and Coal
- C. Nuclear fuels and Solar Power
- D. Coal and Natural Gas
- E. Hydroelectric dams and Oil

Question 7

**Which of the following is NOT a true advantage of utilizing coal as an energy source?**

- A. Clean coal technology is a promising technology that reduces the environmental impact of modern coal plants.
- B. Coal is very energy-dense and has a high energy yield.
- C. Coal produces relatively low sulphur emissions when burned.
- D. Coal is abundant and confirmed reserves are predicted to last three hundred years.
- E. Coal can be extracted and processed domestically, potentially reducing U.S. dependency on foreign oil.

Question 8

**Which of the following pairs of factors have placed the United States in a position of dependency on foreign oil?**

- A. The environmental and labor regulations for oil refining in the U.S. are more costly to firms than the duties and tariffs from importing oil from less regulated countries.
- B. Disproportionately high demand for fossil fuels and a low capacity to produce domestic petrol.
- C. Superior fuel quality from Middle Eastern-sourced petroleum and low import tariffs.
- D. Most U.S. oil reserves have been exhausted and most oil-rich Middle-Eastern nations are politically very stable and offer reliable trade agreements.
- E. Trade agreements made with OPEC and a per capita demand that far outpaces much of the world.

Question 9

**Hydraulic fracturing, also called "fracking," is \_\_\_\_\_.**

- A. a way to extract oil from underground sources
- B. the splitting apart of water molecules
- C. a result of earthquakes
- D. a method of deforestation used primarily in Northern Europe
- E. a tool used by humanitarian groups to disperse water

Question 10

**All of the following are true of fossil fuels EXCEPT for which answer choice?**

- A. Fossil fuels are relatively cheap to extract.
- B. Extracting fossil fuels creates jobs and boosts the economy.
- C. It takes a very long time for fossil fuels to form.
- D. Fossil fuels are cleaner sources of energy than geothermal energy.
- E. At this point in history, fossil fuels are relatively plentiful.

Question 11

**The most common nuclear fuel used to produce a fission chain reaction in a nuclear weapon is:**

- A. Uranium-238
- B. Uranium-235
- C. Plutonium-238
- D. Plutonium-240
- E. Uranium-235

Question 12

**Which of the following is a pressing issue with the production of nuclear energy?**

- A. Destruction as a result from frequent nuclear blasts
- B. Where to store spent fuel waste
- C. Prices for energy are too low for it to be profitable
- D. Heavy air pollution
- E. Various cancers afflicting local wildlife

Question 13

**Which of the following is NOT an adverse effect of building dams to generate hydro-electric power?**

- A. Dams often change the current and width of a watershed, altering the riparian ecosystem.
- B. Animals that rely on fish as sustenance may begin to decline because the dam has permanently altered fish habitat.
- C. Dams can contribute to flooding and resulting property damage.
- D. The energy required to operate and maintain the dam is often equal to the energy produced by the dam.
- E. Many fish populations (including salmon and trout) are decimated because dams restrict access to essential habitat.

Question 14

**An important renewable energy source is solar power. Solar power works by storing sunlight in batteries using which type of cells?**

- A. Thermal cells
- B. Eukaryotic cells
- C. Photovoltaic cells
- D. Radiation cells

Question 15

**Scientists agree that this option holds the most promise for an efficient, cheap, and environmentally safe source of fuel.**

- A. Ethanol made from corn
- B. Ethanol made from cellulosic plants
- C. Agricultural wastes
- D. Biodiesel made from corn
- E. Proton pumps

Question 16

Which of the following is NOT one of the advantages of natural gas as an energy source?

- A. Burning it releases no pollutants.
- B. It is efficient for cooking and home heating.
- C. It can be used as a fuel for vehicles.
- D. It is abundant.
- E. It can be stored and transported.

Question 17

Currently, most high-level radioactive waste from nuclear reactors in the United States is

- A. stored in deep ocean trenches.
- B. buried in Yucca Mountain.
- C. reprocessed into new fuel pellets.
- D. chemically modified into safe materials.
- E. stored at the power plant that produced it.

Question 18

Which of the following is true of passive solar designs?

- A. These designs use mechanical and electrical devices for heating and cooling.
- B. These designs have windows, walls, and floors that are made to collect, store, and distribute solar energy in the form of heat in the winter, and reject solar heat in the summer.
- C. These designs have solar hot water systems which use pumps or fans to circulate fluid.
- D. These designs use low-impact building materials and permeable concrete instead of conventional concrete to enhance the replenishment of ground water.
- E. These designs include onsite generation of renewable energy through solar power, wind power, hydro power, or biomass.

Question 19

Which of the following nonrenewable energy sources produces less  $\text{SO}_2$  and  $\text{NO}_x$  than other fossil fuels when burned, leading to less of an impact on acid rain and photochemical smog?

- A. Coal
- B. Oil
- C. Natural gas
- D. Nuclear power
- E. Hydroelectric

Answer Key

1. D

2. D
3. B, C
4. E
5. E
6. D
7. C
8. B
9. A
10. D
11. E
12. B
13. D
14. C
15. B
16. A
17. E
18. B
19. C