NOTRE DAME energy week

October 7-13, 2007
Quiz Questions and Answers

1) According to the National Climatic Data Center's list of annual average wind speeds, which is the windiest U.S. city?
   a. Amarillo, TX
   b. Chicago, IL
   c. New York City, NY
   d. Dodge City, KS
   e. Rochester, MN

   Answer: d. Dodge City, KS is the windiest U.S. city with average wind speeds of 13.9 mph. Wind needs an average speed of 14 mph to convert wind energy into electricity.

2) How much of the energy in burning coal reaches the consumer as electricity?
   a. 1/3
   b. 1/2
   c. 3/4
   d. 9/10

   Answer: a. Only about 1/3 of the energy from burning coal reaches the consumer as electricity.

3) Oil is a non-renewable energy source. Which of the following statements is not true?
   a. Oil can be replaced by fuel derived from biomass
   b. At present, China is the world's largest consumer of oil
   c. The burning of oil and other fossil fuels generates greenhouse gases
   d. None of the above

   Answer: b. At present, the U.S. is still the world's largest consumer of oil, although that is projected to change during 2008 when China is forecast to overcome the U.S. as the largest consumer of oil.

4) Fluorescent bulbs use much less energy than incandescent bulbs. Turning off lights saves energy. However, it also reduces the lifetime of fluorescent bulbs. It is recommended that you should turn off fluorescent lights if they are not needed for:
   a. 5 min
   b. 15 min
   c. 30 min
   d. 1 hr

   Answer: b. The most accepted number given amount of energy that the fluorescent bulb takes to light vs. its lifetime (replacement costs) is to turn off the light if not going to be used for 15 min.

5) Wind energy is generated in what percentage of the states in the U.S.?
   a. 10%
   b. 25%
   c. 40%
   d. 60%

   Answer: d. Wind energy is produced in 30 of 50 states in the U.S. for a percentage of 60%!

6) How much less energy (recycle your Observer!!) does it take to produce a ton of paper from recycled paper than from trees?
   a. 23%
   b. 46%
   c. 64%
   d. 80%

   Answer: c. It takes 64% less energy to produce a ton of paper from recycled paper than from trees. It also takes approximately 58% less water to produce paper using recycled paper as well.

7) Many idle electronics (TVs, VCRs, DVD & CD players, cordless phones, microwaves) consume energy when switched off to keep display clocks, memory chips, and remote controls etc. These energy 'vampires' use what percent of our domestic energy?
   a. < 1%
   b. 2%
   c. 3%
   d. 5%

   Answer: d. These idle electronics take 5% of our domestic energy even when they are turned off! This is equivalent to the energy produced by a Chernobyl-sized nuclear plant.

8) U.S. ranks what in the world for wind power capacity?
   a. 1st
   b. 3rd
   c. 10th
   d. 20th

   Answer: b. The U.S. ranks 3rd behind Germany and Spain.

9) In the U.S. how many homes got their energy entirely from the sun?
   a. 2,000
   b. 5,000
   c. 10,000
   d. 20,000

   Answer: c. Over 10,000 homes in the U.S. power their homes entirely with energy from the sun.

10) The Nobel Prize in Physics was awarded in which year for experiments with solar power and photovoltaics?
   a. 1921
   b. 1948
   c. 1966
   d. 1980

   Answer: a. The Nobel Peace Prize was awarded to Albert Einstein in 1921 for his experiments with solar power and photovoltaics.

11) Where is the largest hydroelectric dam in the country?
   a. Hoover Dam, Nevada/Arizona
   b. Grand Coulee Dam, Washington
   c. Niagara Falls, New York
   d. Chief Joseph Dam, Washington

   Answer: b. The Grand Coulee Dam on the Columbia river in Washington is the largest hydropower dam in the U.S. It produces 6480 Megawatts of power.

12) The United States generates more geothermal electricity than any other country, but it is less than 1% of the electricity produced in the U.S. Which five states have geothermal power plants?
   a. Wyoming, New York, California, Hawaii, New Mexico
   b. California, Utah, Wyoming, Texas, Oregon
   c. Nevada, Hawaii, California, Utah, Alaska
   d. Wyoming, Nevada, New York, Hawaii, Texas

   Answer: c. All the geothermal power produced in the U.S. is located in Nevada (1 plant), Hawaii (1 plant), Alaska (1 plant), Utah (15 plants), California (33 plants).