



Energy test.

1. **Body mass calculator calculates recommended daily kilocalories (D) . D depends on:**
 - a) *If the authors of BMI calculator stand for those who are more overweight or thinner ones*
 - b) *Geographical point, where you live*
 - c) *Your age, gender, body weight and height, occupation, daily stress*
2. **In your opinion, what is the recommendation for daily kilocalories reception for 17- year old student with body weight 60 kg, height 170 cm, boy**
 - a) *5000 kJ*
 - b) *9000 kJ*
 - c) *20000kJ*
3. **In this chart there are energy values of some food (with 100 g weight). Estimate and complete missing values! If your estimation is right, you will see after the test completion.**

Foodstuff	Kilocalories (kJ)
Yogurt white	157
Yogurt fruit	570
Milk half-fat	194
Milk fat	
Carp	485
Trout	
Pork knee	1268
Pork shoulder	
Sausages	1100
Chicken leg	465
Goosey meat	
Lamb shoulder	1265

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Carrot	88
Cabbage	
Apple	175
Mandarin	
White bread	1000
White roll	

4. Which of the following places is the most appropriate for building a hydroelectric power plant (HPP):

- a) In the mountains
- b) In the plains
- c) Near a sea

5. In hydroelectric power plants energy is produced from:

- a) The wind
- b) The waves
- c) The falling water
- d) The movement of fishes in the water

6. Which of the following hydroelectric power plants produces more electric energy:

- a) Fall of water: 100 m; water current 50 m³/s
- b) Fall of water: 80 m; water current 70 m³/s
- c) Fall of water: 60 m; water current 60 m³/s

Hint: Water energy can be calculated by using the formula:

$$E = m \cdot g \cdot h$$

m – mass

h – height

g – gravity force; $g = \text{const} = 9,8 \text{ m/s}^2$

7. Direct Solar energy is used for

- a) Water heating
- b) Distillation
- c) Drying
- d) All of the above

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8. A liquid flat plate collector is usually held tilted in a fixed position, facing _____ if located in the northern hemisphere.
- a) North
 - b) South
 - c) East
 - d) West
9. Absorption of Solar radiations at earth's surface occur due to presence of
- a) Ozone
 - b) Water vapours
 - c) Carbon di-oxide
 - d) All of the above
10. On what conditions can a human body become a source of voltage?
- a) When he or she has a battery in a pocket
 - b) When he or she has zinc in a left hand and copper in a right hand
 - c) When he or she puts fingers into an electrical plug.
11. What heating output does a human body have?
- a) Like a 60W bulb
 - b) Like a 2KW heating
 - c) Human body does not heat but consumes energy
12. A man puts a hand into a container with water. Can he heat the water at 30 °C this way?
- a) Yes
 - b) No
 - c) Only when he has a fever
13. Where is geothermal energy stored?
- a) in the Earth
 - b) in the sea
 - c) in the volcanoes
14. In what country in Europe is geothermal energy most important source of energy?
- a) Italy
 - b) Iceland
 - c) Finland

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15. Hot springs have been used for bathing at least since

- a) Paleolithic times
- b) Roman times
- c) Middle ages

16. Which one is one of the advantages of wind energy?

- a) Turbines may cause noise and aesthetic pollution
- b) The turbine blades may damage local wildlife
- c) The strength of the wind is not constant and it varies from zero to storm force
- d) Wind power is cost effective. It is one of the lowest-priced renewable energy technologies available today

17. Which one is false about wind power plant?

- a) It's a clean fuel source. Wind energy doesn't pollute the air like power plants that rely on combustion of fossil fuels, such as coal or natural gas
- b) There are two types of wind turbines
- c) Good wind sites are often located in cities where the electricity is needed. So building transmission electric lines is easy and cheap
- d) A wind turbine works the opposite of a fan. Instead of using electricity to make wind, like a fan, wind turbines use wind to make electricity

18. Which one is true about wind energy?

- a) The impact of wind turbines on wildlife, most notably on birds and bats, has been widely document and studied.
- b) Turkey does not have an important wind energy potential.
- c) There is water impact associated with the operation of wind turbines.
- d) Once the wind turbine is built the energy it produces causes green house gases or other pollutant

19. Is it possible to use renewable energy sources in existing thermal power plants?

- a) No, because boilers can only burn oil shale
- b) Yes, but with some changes
- c) Yes, in the boiler you can burn different energy carriers, including renewable



20. Are renewable energy sources always „clean“?

- a) Yes, if energy source is renewable, there is no environment pollution
- b) Using some renewable energy sources, there might emit carbon dioxide
- c) Environmental influences are so small, so we do not need to worry about that

21. What is zero energy building?

- a) House what will not use energy
- b) House what will produce energy for its own usages
- c) House without electricity



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Key

1.C

2.B

3. 239, 530, 972, 1382,91, 187, 1234

4.A

5.C

6.B

7.D

8.B

9.D

10.B

11.A

12.B

13.A

14.B

15.A

16.D

17.C

18.A

19.B

20.B

21.B

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