

## Задания для олимпиады по английскому языку (1 тур) 11 класс.

**Total time 60 min.**

### 1. READING

**Read the interview and answer the questions.**

**Chris:** To bring us up-to-date with events at the Fukushima Nuclear Power Plant, we're joined by Dr Ian Farnan from the Department of Earth Sciences at Cambridge University.

**Dr. Farnan:** Hello, Chris.

**Chris:** First of all, could you just give us a quick round up on what you work on?

**Dr. Farnan:** My main research is on the disposal of nuclear waste and in particular I'm going to head up a research consortium funded by the nuclear authority on disposing of spent nuclear fuel. The way that radioactivity leaks from spent nuclear fuel is by its interaction with water. Actually, radioactivity can leak out through broken pipes and other fractures. However, what's happening in Fukushima is the interaction of water with fresh fuel.

**Chris:** When the tsunami struck, it knocked out the backup generators, which were there to pump water through the core, and disabled those generators. What then unfolded?

**Dr. Farnan:** Well, there was a little bit of extra leeway. The plant had some batteries which ran for a little while, for about 8 hours, and then they just ran out. At that point they had no way of pumping the water through the reactor to keep it cool. So the water in the reactor started to boil and eventually, it came out to what's called a pressure regulator which is below the reactor in a large pit. The dramatic thing that you saw on TV was the problem that there must have been some interaction with the zirconium alloy, which started to get oxidised at high temperatures. The fuel heated up and that produced some hydrogen. So there was a mixture of hydrogen gas in this big pit below the reactor. At some point, the pressure was getting too high and the operators realised that in order to preserve the integrity of the reactor pressure vessel, they needed to vent that pit. When they did that, the hydrogen came out and it obviously encountered some oxygen and there was an explosion, and that's what you saw on TV.

**Chris:** But subsequent to that, what was then the threat, the fact that you had no way of cooling a nuclear core that was still producing quite a bit of heat?

**Dr. Farnan:** Exactly. If you take the Daiichi-1, I think it was about 700-megawatts. So, when the batteries ran out, the reactor was immediately shut down,

but even though you stop the critical reaction at that point with the rods in, you still get 5% of the power, and that's the thermal power. So the thermal power reactor is three times the electrical power. That's just the efficiency of the generating process. So you have to keep a nuclear reactor cool after it shuts down. Now, what happened at Fukushima was that it went into what is called a 'station blackout' and people planned to get the power back in four or five hours. That didn't happen at Fukushima because the tidal wave was so great that it overwhelmed their diesels and it overwhelmed something called 'service water 2'. But in any event, they couldn't get any power to the big pumps.

**Chris:** Could you compare the Chernobyl disaster and the Fukushima accident?

**Dr. Farnan:** I have already said that it's worse than Chernobyl and I'll stand by that. There was an enormous amount of radiation given out in the first two to three weeks of the event. And add the wind blowing in land. It could very well have brought the nation of Japan to its knees. I mean, there is so much contamination that it could have cut Japan in half. We are well beyond where any science has ever gone at that point and the accident at the Fukushima Daiichi plant is not a condition that anyone has ever analyzed.

### **The Questions to the text:**

**1.** Dr. Farnan is going to

- 1) lead the group of companies.
- 2) dispose of nuclear waste.
- 3) study radioactivity.

**2.** In Fukushima, radioactivity leaked through

- 1) broken pipes.
- 2) different fractures.
- 3) interaction with water.

**3.** After the tsunami struck, the plant

- 1) had about 8 hours to take action.
- 2) had no way of pumping the water.
- 3) disabled backup generators.

**4.** The critical thing broadcast on TV was

- 1) there must be some interaction with the zirconium fusion
- 2) there was extra gas in the big pit under the reactor.
- 3) on venting the pit the hydrogen came out what encountered some oxygen and there was an explosion.

**5.** The main reason for the explosion was the reaction between

- 1) the fuel and hydrogen.

- 2) hydrogen and zirconium.
- 3) hydrogen and oxygen.

6. Even though the nuclear reactor had been shut down, it was still

- 1) producing electrical power.
- 2) producing thermal power.
- 3) being cooled.

7. The thermal power is

- 1) a kind of energy directly dependent on the temperature of the object
- 2) the energy gained by electric charges
- 3) the energy used to power different appliances

8. The plant was unable to restore the energy supply because

- 1) the tsunami was too high.
- 2) they had no backup generators.
- 3) they had no diesels.

9. Dr. Farnan is sure that

- 1) the Fukushima accident is no worse than the Chernobyl disaster.
- 2) scientists are unable to evaluate the effects of the Fukushima accident.
- 3) radioactive contamination decreased in the first two to three weeks of the event.

10. The possible consequence of the Fukushima accident is

- 1) the Japanese were not affected much
- 2) the population of Japan could have decreased by half
- 3) only half of the population suffered.

## 2. GRAMMAR AND VOCABULARY

**Task 1. From the four words or phrases (A/ B/ C/ D) choose the one that best completes the sentence:**

1. Astronomers studied the 1987 Supernova to learn \_\_\_\_\_ when a star explodes.  
A) *what happens*; B) *that happens*; C) *that is happen*; D) *what does happen*
2. Despite recent attempts to prove \_\_\_\_\_ did indeed reach the North Pole in 1909, the evidence still remains questionable.  
A) *what R. Peary*; B) *that R. Peary*; C) *R. Peary, who*; D) *R. Peary was*
3. Where \_\_\_\_\_ is the commonest form of color-blindness.  
A) *are the red and green not easily distinguished*; B) *they are not easily distinguished red and green*;  
C) *are not easily distinguished red and green*; D) *red and green are not easily distinguished*
4. Around 1789, A. Lavoisier was the first person to demonstrate \_\_\_\_\_ all kinds of burning involve the addition of oxygen.  
A) *if*; B) *what*; C) *that*; D) *so that*

5. It is only in the last 200 years \_\_\_\_\_ have begun climbing mountains.  
A) *because people*; B) *that people*; C) *people*; D) *as people*
6. Many scientists have shown \_\_\_\_\_ can be used for a number of tasks.  
A) *that lasers how*; B) *lasers how*; C) *how lasers*; D) *that what lasers*
7. \_\_\_\_\_ the Ancient Chinese and Egyptians took astronomy seriously, the Greeks were the first to study the stars scientifically.  
A) *Although*; B) *Despite*; C) *For*; D) *Nevertheless*
8. \_\_\_\_\_ the development of radio telescopes, distant regions of the Universe can be observed.  
A) *The reason*; B) *Because of*; C) *Because*; D) *It is because*
9. \_\_\_\_\_ the 1987 supernova was so near, astronomers were able to study it carefully.  
A) *Although*; B) *Since*; C) *It was*; D) *As it was*
10. Artists have painted nature \_\_\_\_\_ centuries.  
A) *for*; B) *in*; C) *since*; D) *by*
11. By the 20th century, artists were becoming less conventional \_\_\_\_\_ the way they portrayed landscape.  
A) *on*; B) *with*; C) *in*; D) *of*
12. During the Ice Age, glaciers \_\_\_\_\_ and retreated several times over large areas of the earth.  
A) *had been advanced*; B) *were advanced*; C) *have advanced*; D) *advanced*
13. Animals \_\_\_\_\_ on Earth for at least 700 million years.  
A) *were living*; B) *lived*; C) *have lived*; D) *have been lived*
14. We didn't need any \_\_\_\_\_ explanations on what happened.  
A) *far*; B) *farther*; C) *further*; D) *furthest*
15. Larger animals \_\_\_\_\_ than smaller animals of the same type.  
A) *longer live generally*; B) *they generally live long*; C) *live generally long*; D) *generally live longer*
16. The marathon, first staged in 1896, \_\_\_\_\_ the legendary feat of a Greek soldier who carried news from Marathon to Athens.  
A) *commemorates*; B) *was commemorated*; C) *commemorated*; D) *commemorating*
17. When archeologists discovered the ruins of the Olympic Stadium, interest in the Games \_\_\_\_\_.  
A) *was renewed*; B) *were renewed*; C) *renewed*; D) *had renewed*
18. The two World Wars prevented the Olympics from \_\_\_\_\_ place.  
A) *taking*; B) *take*; C) *to take*; D) *took*
19. \_\_\_\_\_ dodo, a giant bird now extinct, lived on Mauritius.  
A) *a*; B) *the*; C) *an*; D) *no article*
20. \_\_\_\_\_ Bahamas, which consist of 700 islands, have a superb climate.  
A) *a*; B) *the*; C) *an*; D) *no article*

1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19	20
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**Task 2. Name the part of a book choosing a word from the box (there is an extra word):**

A. table of contents	E. prologue	I. frontispiece
B. epilogue	F. glossary	J. appendix
C. bibliography	G. acknowledgements	K. preface
D. title page	H. blurb	

1. an illustration on the left page facing the title page
2. contains the full title of the book, and the author's name
3. gives chapter titles and subheadings in the order of appearance
4. where the author gives additional context for the book, some notes on the creation of the book
5. people or organizations that were helpful or inspiring
6. in fiction books provides a continuation or closure to the story
7. includes supplemental information to help clarify the main text
8. a list of terms found in the book
9. a complete list of all sources cited in the book
10. brief information/ abstract of the book mainly printed on the back cover

1	2	3	4	5	6	7	8	9	10

**Part 2. Culture Study**

**Task 3. Match the country of the United Kingdom and a city/ town (there is an extra name):**

Country	City/ Town
1) England	A. Cardiff
2) Wales	B. Glasgow
3) Scotland	C. Bath
4) Northern Ireland	D. Belfast
	E. Dublin
	F. Aberdeen
	G. Manchester
	H. Newcastle-upon-Tyne
	I. Edinburgh
	J. Swansea
	K. Stratford-on-Avon

1	2	3	4