**Задания к тексту Automation in industry (1, 2, 3)**

Exercise 1

Ответьте на вопросы:

1. Are many industries use automation technology in their production process and to what extend this technology is used?

Yes, they are. Many industries are highly automated or use automation technology in some part of their operation.

2. What operations are automated in communications and telephone industry?

Dialing, transmission, and billing are all done automatically.

3. By means of what automatic signaling devices railroads are controlled?

Railroads` automatic signaling devices have sensors that detect cars passing a particular point.

4. What industries require less degree of automation?

Agriculture, sales, and some service industries.

5. Can we state that the concept of automation is developing rapidly?

Yes, we can.

6. How can you explain the continuous-flow method of production, and in what fields of industry this method is used?

The oil and chemical industries, for example, have developed the continuous-flow method of production, owing to the nature of the raw materials used. In a refinery, crude oil enters at one point and flows continuously through pipes in cracking, distillation, and reaction devices as it is being processed into such products as gasoline and fuel oil.

7. Can valves, heaters and similar equipment be operated automatically? If yes, how?  
Yes, they can. An array of automatic-control devices governed by microprocessors and coordinated by a central computer is used to control valves, heaters, and other equipment, thereby regulating both the flow and reaction rates.

8. How automation is used in certain stages of steel industry?

Some ingots may be processed automatically into sheet or structural shapes by being squeezed through a series of rollers until the desired shape is achieved.

9. How do you understand step-by-step manufacture and assembly?  
This technique approximates the continuous-flow concept and involves transfer machines.

10. What is the main principle of the continuous-flow concept in industry?  
These are the increase the output of the final product and reduce losses.

11. What industries use automated machines in all or part of their manufacturing processes?

The telephone industry, the oil and chemical industries, the steel, beverage, canned food industries, the automobile and other consumer product industries.

12. Do you think that each industry has a concept of automation that fits its particular production needs? Give examples of full automated and semi-automated productions.

Yes, I do. The telephone industry is full automated. The service industry is semi-automated production.

13. Can you give examples of automation technologies used in commerce?

A checkout counter may be automated.

14. Do you think that the widespread use of automation influences on individual’s and society’s daily life?

Definitely yes.

15. Does automation provide the basis for the concern of society and the individual?  
Yes, it does.

Exercise 2

Заполните пропуски недостающими по смыслу словами, используя текст:

Railroads too are controlled by … **automatic** signaling devices.

The … **agriculture** industry may become more mechanized, especially in the processing and packaging of foods.

In beverage and canned food industries some of the products are produced in … **by hand**.

When a steel furnace is charged and brought up to heat a very little …. **automation** is needed.

The ingots are processed … **automatically** into sheet or structural shapes.

The automobile and other consumer product industries use the mass production … **techniques** of step-by-step

manufacture and assembly.

Most of the modern industries use … **automated** machines in all or parts of their manufacturing processes.

Each industry has a concept of … **automation** that fits its particular production needs.

More examples of … **automation** can be found in almost every phase of commerce.

The widespread use of automation and its … **influence** on daily life provides the concern expressed by many about the influence of automation on society and the individual.

Exercise 3

Соответствуют ли данные предложения содержанию текста:

All industries are highly automated or use automation technology in some part of their operation. FALSE

In communications and especially in the telephone industry, dialing, transmission, and billing are all done manually. FALSE

Railroads are controlled by automatic signaling devices. TRUE

Agriculture, sales, and some service industries are easy to automate. FALSE

Doctors consult a computer to assist in diagnosis and computer also make the final decision and prescribe therapy. FALSE

The concept of automation is growing rapidly. TRUE

In petrochemical industry an array of automatic-control devices are used to control valves, heaters, and other equipment. TRUE

The automobile industry uses the mass production techniques of step-by-step manufacture and assembly. TRUE

In auto industry the volume of power consumed is essential to the definition of automation. TRUE

The widespread use of automation doesn’t influence our daily life. FALSE

Exercise 4

Переведите на русский язык следующие предложения:

Mechanization is often used to refer to the simple replacement of human labor by machines.  
Термин «механизация» часто используется для обозначения замены человеческого труда машинами.

Automation generally implies the integration of machines into a self-governing system.

Автоматизация обычно подразумевает интеграцию машин в самоуправляющуюся систему.

Automation has revolutionized those areas in which it has been introduced.

Автоматизация произвела революцию в тех областях, в которых она была внедрена.

There is scarcely an aspect of modern life that has been unaffected by automation.

Едва ли найдется хоть один аспект современной жизни, на который не повлияла бы автоматизация.

The term automation was coined in the automobile industry about 1946 to describe the increased use of automatic devices and controls in mechanized production lines.

Термин "автоматизация" был введен в автомобильной промышленности около 1946 года для описания все более широкого использования автоматических устройств и средств управления в механизированных производственных линиях.

The origin of the word is attributed to D.S. Harder, an engineering manager at the Ford Motor Company.

Происхождение этого слова приписывается Д. С. Хардеру, инженеру-менеджеру Ford Motor Company.

In general usage, automation can be defined as a technology concerned with performing a process by means of programmed commands combined with automatic feedback control to ensure proper execution of the instructions.

В общем случае автоматизацию можно определить как технологию, связанную с выполнением процесса с помощью запрограммированных команд в сочетании с автоматическим управлением обратной связью для обеспечения надлежащего выполнения инструкций.

The automatic system is capable of operating without human intervention.

Автоматическая система способна работать без вмешательства человека.

Advanced systems represent a level of capability and performance that surpass in many ways the abilities of humans to accomplish the same activities.

Продвинутые системы представляют собой уровень возможностей и производительности, которые во многих отношениях превосходят способности людей выполнять те же действия.