**Задания к тексту Automation:**

**Exercise 1**

Ответьте на следующие вопросы:

1. Automation is a system of manufacture designed to extend the capacity of machines to perform certain tasks formerly done by humans, and to control sequences of operations without human intervention.
2. Devices such as automatic telephone switching, autopilots and automated command and control systems are used.
3. Automated manufacture arose out of the intimate relationship of such economic forces and technical innovations as the division of labor, power transfer and the mechanization of the factory, and the development of transfer machines and feedback systems.
4. The division of labor is the reduction of the production or service process into its smallest independent steps.
5. In manufacturing, the division of labor results in increased production and a reduction in the level of skills required of workers.
6. Mechanization was the next step necessary in the development of automation.
7. The development of power technology also gave rise to the factory system of production, because all workers and machines had to be located near the power source.
8. The transfer machine is a device used to move a work piece from one specialized machine tool to another, in such a manner as to properly position the work piece for the next machining operation.
9. Industrial robots, originally designed only to perform simple tasks in environments dangerous to human workers, are now extremely dexterous and are being used to transfer, manipulate, and index (that is, to position) both light and heavy workpieces, thus performing all the functions of a transfer machine.
10. The goal of this assembly-line system was to make automobiles available to people who previously could not afford them.

**Exercise 2**

Заполните пропуски недостающими по смыслу словами, используя текст:

1. Manufacture system designed to extend the capacity of machines is called Automation.
2. Automated manufacture arose out of division of labor and the mechanization of the factory.
3. The division of labor is the reduction of a manufacturing or service process into its smallest independent steps.
4. Another step necessary in the development of automation was mechanization.
5. As a result of the development of power transfer specialized machines were motorized and their production efficiency was improved.
6. The development of power technology also gave rise to the factory system of production.
7. The transfer machine is a device used to move a work piece from one specialized machine tool to another.
8. Industrial robots were originally designed only to perform simple tasks.
9. The goal of the assembly-line system was to make automobiles available to people who previously could not afford them.

**Exercise 3**

Соответствуют ли данные предложения содержанию текста:

1. Automation is a system of manufacture designed to reduce the capacity of machines to perform certain tasks formerly done by humans - True
2. In the fields of communications, aviation, and astronautics automation is used in a very limited scale - False
3. Automated control systems are used to perform various operations much faster or better than could be done by humans - True
4. Power transfer and the mechanization of the factory were the main obstacles in the development of automation - False
5. The division of labor developed in the first half of the 19th century and was first discussed by the French economist Adam Smith - False
6. Mechanization was the next step necessary in the development of automation - True
7. The development of power technology gave rise to the factory system of production - True
8. The transfer machine is a device used to move workers from one place to another - False
9. In the 1920s the auto industry combined automation concepts into an integrated system of production - True
10. The goal of the assembly-line system in auto industry was to make automobiles more expensive and luxurious – False

**Exercise 4**

Переведите на русский язык следующие предложения:

1. Автоматизированная производственная линия состоит из ряда рабочих мест, соединенных передаточной системой для перемещения деталей между станциями.
2. Современные автоматизированные линии управляются программируемыми логическими контроллерами.
3. Автоматизированные производственные линии [используются во многих отраслях промышленности](https://topuch.ru/vvedenie-apparati-s-meshalkami-shiroko-ispolezuyutsya-v-himich/index.html), особенно автомобильной.
4. Если производить деталь серийно, то автоматизированная линия передачи часто является наиболее экономичным методом производства.
5. Линии передачи датируются примерно 1924 годом.
6. Рабочие операции пресса включают в себя резку и формование деталей из листового металла.
7. Автоматизированная система предназначена для выполнения некоторого полезного действия, и это действие требует энергии.

**Exercise 5**

Переведите на английский язык:

1. Electricity is the most widely used source of energy in modern automated systems.
2. Automated systems perform basically two types of operations: a) processing; b) moving and positioning.
3. Automation is system of manufacture designed to increase the productivity of machines and mechanisms.
4. Communications, aviation, and astronautics are the industries that make the most extensive use of automation.
5. Division of labor, energy transfer, and mechanization of production accelerated the development of automation.
6. The next step necessary in the development of automation was mechanization.
7. The Development of energy transfer technology, contributed to the development of automation.
8. Industrial robots were originally designed to perform simple tasks in environments dangerous to human.