I. Read the text:

INFORMATICS

We may ask a question what information is. In the discussions of computers, the word information has a rather special definition. Information (data) is a set of marks that have meaning. In a large automatic electronic computer, information may be recorded and manipulated as sequence of minute electrical pulses which are about a millionth of a second apart; and the presence or absence of a pulse in a position where either may occur is the basic code which represents information. Informatics is a collection of computer theories and novel information technologies.

It is difficult to say what the future holds in store for informatics. Every day we learn more and more about the penetration of informatics into the most widely differing spheres of human activity. The launching of sputniks and the delivery of our space rockets to their orbits with such high accuracy could have been hardly possible without computers. This, however, does not mean that the machine can ever become "cleverer" than its creator. The point is that the machine does not replace man, it only increases his work output and multiplies his power over the forces of nature. It should be always remembered that the machine serves man, and not the other way round. Without man, even the most perfect machine would be only a useless heap of metal.

Man's technical progress is reflected in the tools he has invented. From early times he has been ceaselessly creating and improving devices to assist his brain in completing tasks difficult or otherwise impossible. Throughout the centuries man has developed and refined the ability to record, process and communicate information. With the advent of automatic digital computers, man has created devices that can solve complete problems without the need for human intervention during the course of solution. Although operations performed by computers are the very basic ones addition, subtraction, multiplication and division), great speed of operation is more than compensation. The principal use of computers has been in the area of applied mathematics. The application of computers to scientific problems has become later than the original business applications. Nowadays computers have become increasingly important as basic tools for analysis. This operation requires highly refined and flexible techniques.

The contributions of the scientists to the progress of informatics consists of the evaluation, measurement and description of the capabilities and of structural and functional attributes of living organisms. Such studies involve the methods of communication, feedback and control in the living entity. Hence, an important aspect of the work in informatics for mathematicians deals with the math theory of communication.

It is anticipated that the future developments of automated industries and societal functions will be based on the theorems developed from informatics, which thus far has made significant contribution to the technology of guided missiles, business and scientific computer applications, communications and automatic control. Informatics is a young science and yet it is increasingly applied in various branches of industry and research, invading a wide range of fields in human activity. Informatics endeavors to find the answer to two major questions: the best way of controlling this or that process, and the best way of utilizing a machine (if possible) for controlling this process.

II. Do the following exercises:

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1. Answer the following questions:

1. What is information?
2. What is informatics?
3. What can be done with the help of computers?
4. Can the machine replace the man?
5. What are the operations that can be performed by the computer?
6. What is the scientist's contribution to the progress?
7. Where is informatics applied?
8. What are two questions which informatics tries to solve?

2. Give English equivalents:

вряд ли были бы возможными, имеют значение, информация может быть записана и ею можно управлять, электрические импульсы, наличие или отсутствие импульса, новые информационные технологии, человеческая деятельность;

3. Look through the text once more and select the right statements:

A. Information (data) is not a set of marks that have meaning.
B. Man's technical progress is reflected in the tools he has invented
C. Such studies involve the methods of business
D. Man has created devices that can solve complete problems without the need for human intervention during the course of solution.
E. Nowadays computers have not become increasingly important as basic tools for analysis

4. Make up a short dialogue using the following words and expressions from the text:

collection of computer theories, the contributions of the scientists, automatic digital computers, launching of sputniks, automated industries, will be based on.