FOREIGN LANGUAGES DEPARTMENT
TEST OF ENGLISH PROFICIENCY
READING 2

SOFTWARE ENGINEERING

1 We cannot run the modern world without software. National infrastructures and utilities are controlled by computer-based systems and most electrical products include a computer and controlling software. Industrial manufacturing and distribution is completely computerized, as is the financial system. Entertainment, including the music industry, computer games, and film and television, is software intensive. Therefore, software engineering is essential for the functioning of national and international societies.

2 Software systems are abstract and intangible. They are not constrained by the properties of materials, governed by physical laws, or by manufacturing processes. However, because of the lack of physical constraints, software systems can quickly become extremely complex, difficult to understand, and expensive to change.

3 There are many different types of software systems, from simple embedded systems to complex, worldwide information systems. It is pointless to look for universal notations, methods, or techniques for software engineering because different types of software require different approaches. Developing an organizational information system is completely different from developing a controller for a scientific instrument. Neither of these systems has much in common with a graphics-intensive computer game. All of these applications need software engineering; they do not all need the same software engineering techniques.

4 There are still many reports of software projects going wrong and 'software failures'. Software engineering is criticized as inadequate for modern software development. However, in my view, many of these so-called software failures are a consequence of two factors:

- Increasing demands: As new software engineering techniques help us to build larger, more complex systems, the demands change. Systems have to be built and delivered more quickly; larger, even more complex systems are required; systems have to have new capabilities that were previously thought to be impossible. Existing software engineering methods cannot cope and new software engineering techniques have to be developed to meet these new demands.

- Low expectations: It is relatively easy to write computer programs without using software engineering methods and techniques. Many companies have drifted into software development as their products and services have evolved. They do not use software engineering methods in their everyday work. Consequently, their software is often more expensive and less reliable than it should be. We need better software engineering education and training to address this problem.

5 Software engineers can be rightly proud of their achievements. Of course we still have problems developing complex software but, without software engineering, we would not have explored space, would not have the Internet or modern telecommunications. All forms of travel would be more dangerous and expensive. Software engineering has contributed a great deal and I am convinced that its contributions in the 21st century will be even greater.

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NAME & SURNAME:
STUDENT NUMBER:
ID/PASSPORT NO:
SIGNATURE:

READING 2: SOFTWARE ENGINEERING

Answer the following questions according to the reading text. The questions are in the same order as the relevant information appears in the text. For each question, circle the correct option.

QUESTIONS

1. What is the author's purpose in the first paragraph?

A) to introduce the basic duties of a software engineer
B) to illustrate the prevalence of software
C) to explain the significance of software for nation building
D) to show the need for more developed software in various industries

2. Paragraph 1 and 2 are reprinted below. Where does the following sentence best fit within the text in order to maintain its logical coherence? Circle the correct response.

'This simplifies software engineering, as there are no natural limits to the potential of software.'

We can't run the modern world without software. National infrastructures and utilities are controlled by computer-based systems and most electrical products include a computer and controlling software. Industrial manufacturing and distribution is completely computerized, as is the financial system. Entertainment, including the music industry, computer games, and film and television, is software intensive. Therefore, software engineering is essential for the functioning of national and international societies. **(A)**

Software systems are abstract and intangible. **(B)** They are not constrained by the properties of materials, governed by physical laws, or by manufacturing processes. **(C)** However, because of the lack of physical constraints, software systems can quickly become extremely complex, difficult to understand, and expensive to change. **(D)**

3. Which of the following words best completes the following sentence:
'Paragraph 3 serves to illustrate the _____ within the software industry.'

A) commonality
B) complexity
C) technicality
D) diversity

4. Which of the following is **not** mentioned among the causes of 'so-called software failures'?

A) the limited abilities of current software engineering methods
B) inability to deliver systems as fast as is required by today's standards
C) the limited number and quality of software engineering education staff
D) development of software without employing software engineering methods

5. According to the last paragraph, which of the following would best describe the author's attitude towards the present and future of software engineering?

A) appreciative
B) reserved
C) sceptical
D) uncertain

ANSWER KEY

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