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Activity Two – Reading Comprehension

Design Engineering: From Ideas to Innovative Products

Read the following text and answer the questions below.

Design Engineering is the branch of engineering that focuses on creating products, systems and solutions that are functional, safe and efficient. Design engineers combine creativity with scientific and technical knowledge to solve problems and improve people's everyday lives. Their work can be seen in products ranging from smartphones and medical devices to cars, furniture and household appliances.

The engineering design process usually begins by identifying a problem or a need. Engineers then research possible solutions, develop ideas and create initial sketches or digital models. During this stage, Computer-Aided Design (CAD) software is widely used to produce accurate technical drawings and three-dimensional models.

Once a design has been completed, engineers often build a prototype. A prototype is an early version of a product that allows designers to test its performance and identify possible improvements before mass production begins. Testing is an essential part of the design process because it helps engineers detect problems, improve safety and reduce manufacturing costs.

Modern Design Engineering also places great importance on sustainability. Engineers are encouraged to design products that use fewer materials, consume less energy and can be recycled more easily. Sustainable design helps reduce environmental impact while maintaining high levels of quality and performance.

Design engineers rarely work alone. They collaborate with mechanical, electrical and computer engineers, as well as manufacturers and marketing specialists. Effective communication and teamwork are therefore essential skills for successful engineering projects.

As technology continues to evolve, Design Engineering plays an increasingly important role in developing innovative products that improve people's quality of life and contribute to a more sustainable future.

Reading Comprehension

Multiple Choice

Choose the correct answer.

1. What is the main purpose of Design Engineering?

- a) To study the history of engineering.
- b) To create functional and efficient products and systems.
- c) To repair machines.
- d) To build only electronic devices.

2. What is usually the first step in the engineering design process?

- a) Manufacturing the product.
- b) Selling the product.
- c) Identifying a problem or need.
- d) Testing the final product.

3. What is CAD mainly used for?

- a) Controlling robots.
- b) Producing technical drawings and 3D models.
- c) Building aircraft.
- d) Programming software.

4. Why do engineers build prototypes?

- a) To decorate the final product.
- b) To advertise new products.
- c) To test and improve the design before production.
- d) To reduce the price of computers.

5. According to the text, sustainable design aims to...

- a) increase production costs.
- b) use more materials.
- c) reduce environmental impact.
- d) eliminate technology.

Answer Key

1. b) To create functional and efficient products and systems.
2. c) Identifying a problem or need.
3. b) Producing technical drawings and 3D models.
4. c) To test and improve the design before production.
5. c) Reduce environmental impact.