

I. What professions use CAD and what for? Write professions next to the right description.(5 points)

1.	test how all products look, feel, interact	
2.	design and develop life-saving and health-improving devices	
3.	testing strength of materials before they are used in constructions	
4.	designing and testing how the air will flow over the component, determining how the object will react to different variables as ice, snow, strong wind etc.	
5.	designing components and units which are present in every electronical device	

II. Put the following words in the right sequence to make sentences CAD/CAM systems, then write A(for advantage) or D (for disadvantage). (10 points)

1. percent /productivity /software/ increases/ by /CAM/ as much as/ 50 /initially.

2. of /Work/ be/ because/ can /the/ breakdown/ of/ sudden/ lost/ computers.

3. erasing /can /without/ be/ Designs/ altered.

4. possible /Computer/ are/ errors.

5. elements/ be/ Certain/ to/ facilitate/ can/ inspection/ magnified.

III. Decide whether the following sentences are T/true or F/false. (30p)

- The negative copy where black lines turn white and blank space turns blue is called a blue print. ____
- Industrial revolution started in the same year in which a blue print was discovered. ____
- Alan Turing was an American astronomer. ____
- The term CAD was invented by Patrick Hanratty. ____

5. In 1971 General Motors introduced the microprocessor to the world. ____
6. ADAM is the CAD software known as automated drafting and machinery introduced by Patrick Hanratty. _
7. To protect panels from the harsh environment temperature changes, cold, wet etc. the laminators are put on the top of them. ____
8. Copper is the most popular material for solar cells ____
9. To make it more efficient, engineers shape silicon into microscopic squares. ____
10. The Earth captures a 173 thousand terawatts. ____
11. Crystalline solar cell is sandwiched between conductive layers of silicon. ____
12. About 50% of light energy can be converted into electricity. ____
13. Glass is an organic solid material that is usually transparent or translucent as well as hard, brittle, and impervious to the natural elements. ____
14. Glass decomposes very slowly therefore it is non-recyclable. ____
15. Tempered glass, or toughened is the most common type of glass used in balustrades or similar structural applications ____
16. Glass is an amorphous material whose main component is silicon oxide ____
17. Nicola Tesla was born in Smiljan, Serbia. ____
18. Tesla discovered the rotating magnetic field ____
19. Tesla sold patent rights to Thomas Edison ____
20. Tesla's interest in electrical invention was spurred by his father. ____
21. Wind is the largest source of renewable energy in the United States ____
22. Wind farms are areas where several wind turbines and solar panels are grouped together, providing a larger total energy source. ____
23. Wind farms are most cost-effective in urban areas. ____
24. The Jiuquan Wind Power Base wind farm has a set of over 7,000 wind turbines. ____
25. Water heat pumps come in closed loop mode only. ____
26. China and USA has the most air conditioning units in the world. ____
27. The performance of the microsensors is lower than their macro counterparts ____
28. MEMS in some parts of the world are called "Microsystems Technology" or "micromachined devices" ____
29. MEMS stands for Macro-Electro-Mechanical Systems. ____

30. The vision of MEMS where micro-sensors, micro actuators, microelectronics and other technologies can be integrated with just one microprocessor is a technology of the past. _____

IV. Translate into Polish or English (10p)

	krok milowy	prąd zmienny	
cornerstone			półprzewodnik
	obfity		wytrawianie
combustion		rotor	
	przejrzysty		chłodzić

V. Match words to their definitions. (10 points)

1.	Carbon footprint	a.	be shed from a surface in scales or layers.
2.	Sulphur dioxide	b.	a real or imaginary straight line going through the centre of a object that is spinning, or a line that divides a symmetrical shape into two equal halves
3.	sample	c.	side higher than the other
4.	vulnerable	d.	the repairs, painting etc that are necessary to keep something in good condition
5.	intercept	e.	the total sum of greenhouse gas emissions caused directly or indirectly by a person, organisation, event or product
6.	tilt	f.	the top layer of earth that plants grow in
7.	exfoliate	g.	exposed to the possibility of being attacked or harmed, either physically or emotionally
8.	axis	h.	a gas that has a strong, unpleasant smell and dissolves in water. It is used in various industrial processes, and can cause air pollution
9.	maintenance	i.	a small part or quantity intended to show what the whole is like
10.	soil	j.	to stop someone or something before they are able to reach a particular place

1____, 2____, 3____, 4____, 5____, 6____, 7____, 8____, 9____, 10____