(CAD/CAM + presentations:Aerogel,Graphene,Glass, N.Tesla,Solar Power,Wind Turbines,Heat Pumps)

Test 2(10)

13I4/I6/I7 B2

Pn.9.15

Total: /65

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

1.	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.	
2.	designing components and units which are present in every electronical device	
3.	testing strength of materials before they are used in constructions	
4.	design and develop life-saving and health-improving devices	
5.	test how all products look, feel, interact	

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.

   _____ A/D? ____

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

   _____ A/D? ____

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

   _____ A/D? ____

4. possible /Computer/ are/ errors.

   _____ A/D? ____

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

   _____ A/D? ____

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

1. The negative copy where black lines turn white and blank space turns blue is called a blue print. ___
2. Industrial revolution started in the same year in which a blue print was discovered. ___
3. Alan Turing was an American astronomer. ___

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4. 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. Due to their ghostly blue look Aerogels are known as "frozen ghosts". ____
8. Aerogels cannot be used in cosmetics because they are toxic. ____
9. Aerogel is able to support heavy loads. ____
10. Graphene is arranged in a crystallized manner like graphite ____
11. Graphene is more than 10 times stronger than steel.___
12. Graphene has the highest electron and neutron mobility of all electronic materials ____
13. Graphene indicates strong antibacterial properties ____
14. Glass is an organic solid material that is usually transparent or translucent as well as hard, brittle, and impervious to the natural elements. ____
15. Glass decomposes very slowly therefore it is non-recyclable. ____
16. Tempered glass, or toughened is the most common type of glass used in balustrades or similar structural applications ____
17. Glass is an amorphous material whose main component is silicon oxide _____
18. Nicola Tesla was born in Smiljan, Serbia. _____
19. Tesla sold patent rights to Thomas Edison _____
20. Tesla's interest in electrical invention was spurred by his father. _____
21. Tesla discovered the rotating magnetic field _____
22. Crystalline solar cell is sandwiched between conductive layers of silicon. ____
23. To protect panels from the harsh environment temperature changes, cold, wet etc. the laminators are put on the top of them. _____
24. There are less toxic elements used in such electronic devices, mobile phones, computers, & TVs than solar panels ____
25. The Earth captures a 173 thousand terawatts. _____
26. Wind turbine is device, that converts the electrical energy into the kinetic Energy of wind. _____
27. A Greek engineer, Heron of Alexandria, invented the first windwheel ____
28. The rotor blades have an oval shape unlike airfoil wings on a plane. ____

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29. Water heat pumps come in closed loop mode only. ____

30. China and USA has the most air conditioning units in the world. ____

IV. Translate into Polish or English (10p)

	krok milowy	prąd zmienny	
cornerstone			półprzewodnik
	azotowy		lutować
Scatter		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.	**suspension**	b.	the portion of the electromagnetic spectrum that is visible to the human eye.
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.	**Visible spectrum**	h.	is a heterogeneous mixture of a finely distributed solid in a liquid
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_____

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