

Name:

Section & Group:

I. Circle the right answer

1. Protective layer to prevent or reduce the conduction of heat or electricity
 - a. Protection
 - b. Insulation
 - c. Isolation
 - d. Barrier
2. Which one is non-metal
 - a. Copper
 - b. Brass
 - c. Zinc
 - d. Rubber
3. What is the non-verbal feature concerning what we wear and how we stand on stage?
 - a. Smart clothes
 - b. Posture
 - c. Formal clothes
 - d. Position
4. Choose among the following statements those concerning the post-use phase
 - a. Wood is a better insulator than brick.
 - b. Bricks logically last longer than timber.
 - c. Bricks are heavy to transport.
 - d. It is possible to recover both bricks and softwood
5. Which one contains iron?
 - a. Copper
 - b. Aluminum
 - c. Steel
 - d. Brass
6. "Allow", "prevent", and "ensure" are specific vocabulary used for describing technical applications
 - a. True
 - b. False
7. How do you call the GPS feature that ensures the crew of a ship to find the position of any falling body in the water?
 - a. Man in the water
 - b. Geographical position
 - c. Man overboard
 - d. Falling man

8. How do you call the process of using again materials that have already reached their lifespan's end?
 - a. Reusing
 - b. Reutilizing
 - c. Recycling
 - d. Recircling
9. Choose among the following features the verbal one
 - a. Pace
 - b. Movement
 - c. Gestures
 - d. Facial expressions
10. Choose among the following features the non-verbal one
 - a. Voice projection
 - b. Rate of speech
 - c. Eye contact
 - d. Stress
11. The GPS was originally developed for military use in the United States.
 - a. True
 - b. False
12. Abrasive cutting and removing a kerf of material is:
 - a. Milling
 - b. Drilling
 - c. Waterjet cutting
 - d. Sawing
13. Cutting away the material in a rotary motion
 - a. Shearing
 - b. Flame-cutting
 - c. Grinding
 - d. Milling
14. What is the disadvantage of bolts?
 - a. Work loose overtime
 - b. Permanent
 - c. Are weakened by heat
 - d. Are weakened by water
15. What is the disadvantage of welding?
 - a. Work loose overtime
 - b. Generate flawed welds
 - c. Are weakened by paint
 - d. Are weakened by water
16. What does virtual model mean?
 - a. Reduced scale model
 - b. Mock-up model
 - c. Prototype
 - d. Computer model

II. Answer the following questions

17. Reorganize the following statements, respecting the lifespan's chronology.

- a. Softwood could last as long as bricks, if it's properly maintained.
- b. Neither wood nor bricks are very easy to recycle.
- c. During construction, building with bricks uses more energy, as sand and cement must be transported and mixed to make mortar.
- d. It takes a lot of energy to produce bricks because they must be fired in a kiln.

- 1)
- 2)
- 3)
- 4)

18. Reorganize the following statements, respecting the lifespan's chronology.

- a. However, it takes less energy to transport aluminium because it's lighter.
- b. For in-use, aluminium is better than copper for the bodywork.
- c. As a matter of fact, the vehicle would consume less fuel.
- d. For post-use, both aluminium and copper can be recycled.
- e. For pre-use, it takes more energy to produce aluminium than to produce copper, if it's derived from ore.

- 1)
- 2)
- 3)
- 4)
- 5)

19. Reorder the following statements to make a coherent paragraph.

- a. Scrapping cars presents both benefits and problems of recycling.
- b. A lot of metal, notably steel, can be recycled.
- c. On the other hand, tyres are more difficult to recycle.
- d. What is more, oil, brake fluid and battery acid are potential pollutants which need to be disposed of carefully.
- e. Intact parts can be recovered and resold

- 1)
- 2)
- 3)
- 4)
- 5)

Task 1

- Match the following words with their definitions:

- | | |
|------------------|--|
| 1. Magnetism | a. passing an electrical current through a liquid or solid in order to separate chemical compounds |
| 2. Galvanization | b. Isolation |
| 3. Electrolysis | c. force of attraction |
| 4. Insulation | d. coated with zinc (Zn) to prevent rusting |

- Give an example of **magnetism** in a meaningful sentence

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Task 2

Look at the example for inspiration: Waterjet-cutting (curved edges, thick materials)

Waterjet-cutting is **the ideal solution for** curved edges, but it's **not so good if you need** to cut thick materials.

1. **Sawing** (straight edges, curved edges)

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2. **Flame-cutting** (metals, Ceramics)

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Task 3

Write **two** meaningful sentences for the following **prompt**, using the cause and effect expressions (**result in**, **as a result of**) and **two** of the given **key words**:

Prompt: A vehicle tire is overheating: (**Key words**: puncture, explosion, inflation, wearing)

- a. Possible cause:
.....

- b. Possible effect:
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Task 4

- Considering the statements below about aluminum and steel as used in cars bodywork, **compare** between aluminum and steel in **pre-use**, **in-use**, and **post-use** phases.

- ✓ It takes a lot of energy to produce aluminum.
- ✓ Aluminum is made by electrolysis.
- ✓ Steel takes less energy to weld.
- ✓ Aluminum is lighter, so the vehicle would consume less fuel
- ✓ It takes less energy to handle and transport aluminum.
- ✓ It takes less energy to produce steel.
- ✓ Aluminum lasts longer.
- ✓ Old steel cans are recycled easily to make car parts.

- a. **For pre-use**,
- b. **For in-use**,
-
- c. **For post-use**,.....
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Task 5

Describe how to **develop** a car's **aerodynamic design** using all of the following tools (**CFD**, **acid test**, **mock-up**, **back-to-back test**, **reduced scale**, **wind tunnel**.)

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